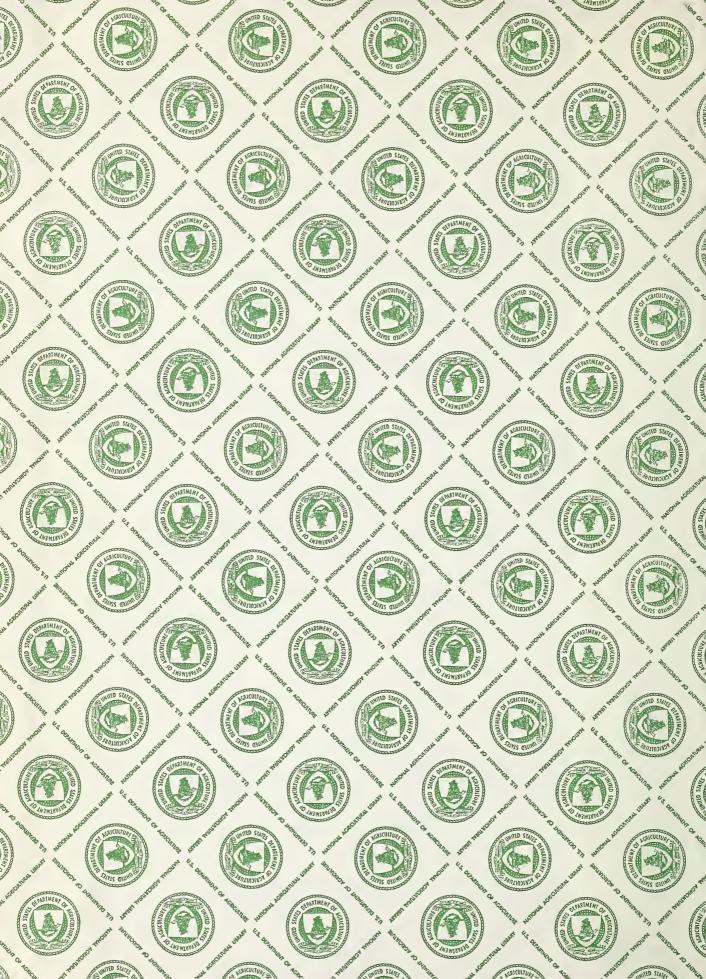
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Do not assume content reflects current scientific knowledge, policies, or practices.

















FEDERAL - STATE - PRIVATE

COOPERATIVE

SNOW SURVEY and WATER SUPPLY FORECASTS for OREGON

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE

and

OREGON AGRICULTURAL EXPERIMENT STATION

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

JAN. 1, 1960

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL C INSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

KEFOKIS	1330ED	LOCATION	COOPERATING WITH
RIVER BASINS			
Colorado ano State of Utah	MONTHLY (JANMAY)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER AND OTHER AGENCIES
Columbia ano States of	MONTHLY (JANMAY)	BOISE, IOAHO	loaho State Reclamation Engineer
UPPER MISSOURI AND STATE OF MONTANA	MONTHLY (FEBMAY)	BOZEMAN. MONTANA	MONT. AGR. EXP. STATION
WEST-WIDE	OCT.1, APR.1, MAY 1	PORTLANO, OREGON	ALL COOPERATORS
STATES			
ARIZONA	SEMI-MONTHLY (JAN.15 - APR.1)		SALT R. VALLEY WATER USERS ASSOCIATION ARIZ. AGR. EXP. STATION
COLORA OO ANO NEW MEXICO	MONTHLY (FEBMAY)	Fort Collins, Colorado _	COLO. AGR. EXP. STATION COLO. STATE ENGINEER N. MEX. STATE ENGINEER
NEVAOA	MONTHLY (FEBAPR.)		NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JANMAY)	PORTLANO, OREGON —	ORE. AGR. EXP. STATION OREGON STATE ENGINEER
WASHINGTON	MONTHLY (FEBMAY)	SPOKANE, WASHINGTON	WASH. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB JUNE)	CASPER. WYOMING	WYOMING STATE ENGINEER
Copies of these various	reports may be secured	from: Head, Water Suppl Soil Conservation 209 S. W. Fifth A	
	PUBLISHED BY 01	HER AGENCIES	
REPORT	ISSUED	AG	ENCY
BRITISH COLUMBIA	MONTHLY (FEBJUNE)		RIGHTS BR., DEPT. OF LANOS AMENT BLOG., VICTORIA, B.C.,
CALIFORNIA	MONTHLY (FEB MAY)	CALLEGRNIA DEPT. O	F WATER RESOURCES. SACRAMENT

CALIFORNIA

FEDERAL - STATE - PRIVATE

COOPERATIVE

SNOW SURVEY and WATER SUPPLY FORECASTS for OREGON

ISSUED

JANUARY 8, 1960

Report prepared by

W. T. FROST, Snow Survey Supervisor

and

BOB L. WHALEY, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE 209 S.W. 5TH AVE., PORTLAND 4, OREGON

Issued by

THOMAS P. HELSETH

STATE CONSERVATION IST

SOIL CONSERVATION SERVICE

F. EARL PRICE

DIRECTOR

OREGON AGRICULTURAL

EXPERIMENT STATION

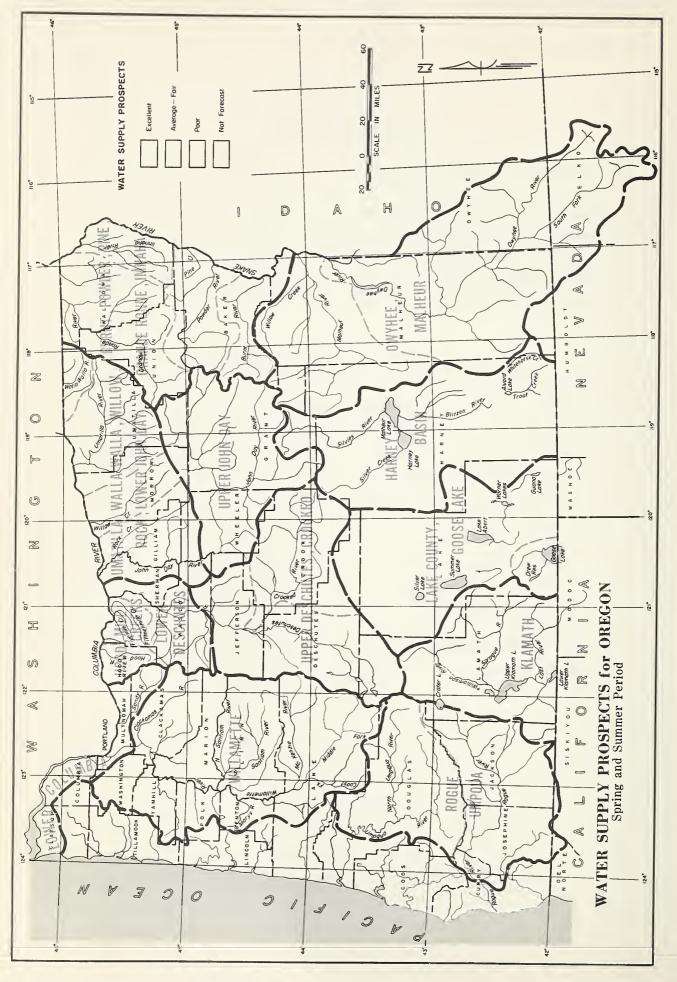
LEWIS A. STANLEY
STATE ENGINEER
STATE OF OREGON



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LIST OF COOPERATORS......INSIDE BACK COVER



WATER SUPPLY OUTLOOK for OREGON

JANUARY 1, 1960

The outlook for Oregon's 1960 water supplies, as of this early winter date, ranges from only "fair" to "very poor". Reservoired water supplies are mostly far below normal, watershed soils are drier than normal and the mountain snow-pack is near record low in many portions of the state.

SNOW-COVER:

Water content of the mountain snow-pack in Oregon averages only 25 percent of the January 1 normal compared with the record low 17 percent recorded at this date last year. The snow-pack is poorest, in relation to normal, in the Willamette and Hood River-Wasco areas. The best snow-pack, still only 39 percent normal, lies on the watersheds of the northeastern Oregon counties.

Normally, about 37 percent of the total winter's "snow crop" is accumulated on the mountain watersheds by January 1st. Thus far this year only 11 percent of the normal winter snow has accumulated. As of January 1st, the state has received a very limited number of storms and each of these has produced very limited amounts of snow.

SOIL-MOISTURE:

Soils in the mountain watersheds are fairly well primed by fall rains in the northern third of the state. However, soil-moisture in the rest of the state is exceptionally dry and will soak up valuable snow-melt water before streamflow can begin.

RESERVOIRED WATER:

Total stored water in 19 important irrigation reservoirs is now 69 percent of the 15 year average (1943–57) for January 1st and only half the amount available at this date last year.

These unusually low storage figures reflect directly the exceptionally dry conditions of the past season and the recent shortage of fall precipitation.

Five multi-purpose reservoirs in the Willamette area are currently held at low levels in accordance with planned operation for flood control.

PRECIPITATION:

State-wide precipitation ¹ since October 1st has been close to half normal with much less in many areas.

STREAMFLOW:

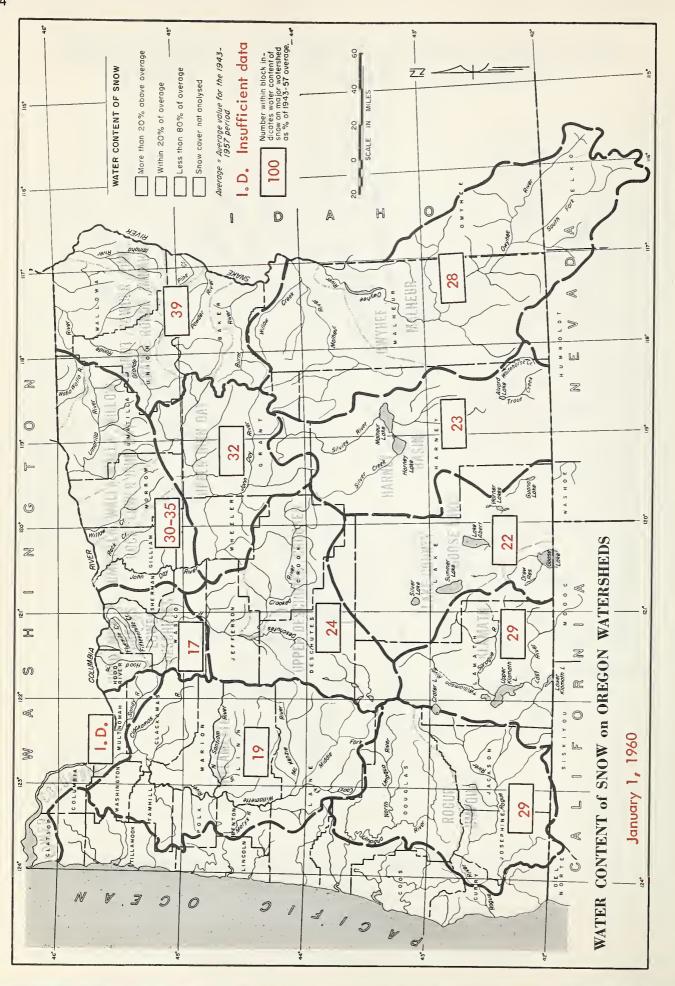
Present outlook is for much below normal streamflow during the 1960 irrigation season (April through September) unless remaining winter storms produce much above average amounts of snow-stored water.

Studies in Oregon have shown that in only 4 out of the past 30 years has the snow-pack come up to normal by April 1st when it was much below normal on January 1st.

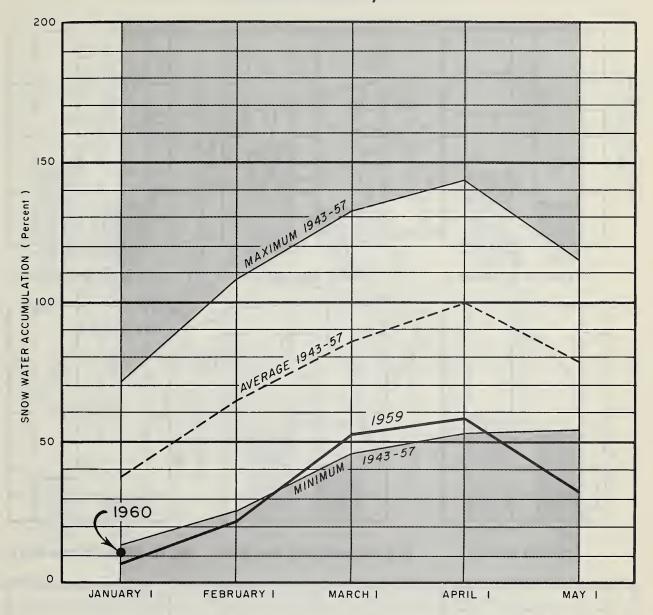
Flow of key Oregon streams ² during the period from October 1st to the end of December has varied from a high of 91 percent normal for the Deschutes to a low of 39 percent for the Middle Fork of the Willamette and 42 percent for the Rogue.

⁽¹⁾ From preliminary data furnished by U.S. Weather Bureau, Portland, Oregon.

⁽²⁾ From preliminary data furnished by U.S. Geological Survey, Portland, Oregon.



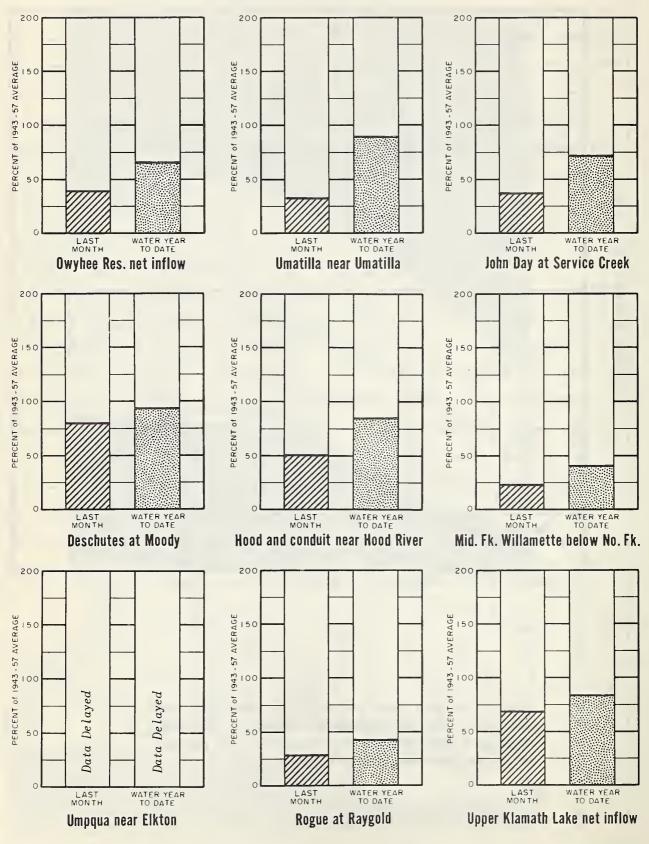
SNOW WATER ACCUMULATION in OREGON JANUARY 1, 1960



On a normal year there is about 37 percent of the winter's total snow water accumulated by January 1. This year, although a little better than last year, only 11 percent of the total has been accounted for to date.

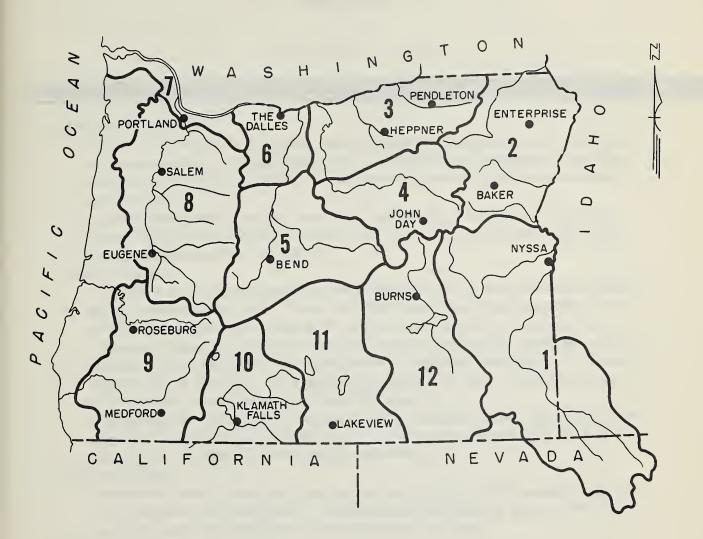
CURRENT OREGON STREAMFLOW

JANUARY 1, 1960



Pata furnished by U.S. Geological Survey; The California Oregon Power Co.; and North and South Boards of Control Owyhee Project. Water year begins Oct. 1, 1959.

VALLEY PRECIPITATION in OREGON a JANUARY 1, 1960



PRECIPITATION as PERCENT of the 1943 - 57 AVERAGE								
STATION	LAST MONTH	WATER b YEAR TO DATE	STATION	L AST MONTH	WATER b YEAR TO DATE			
BAKER APT. BEND BURNS ENTERPRISE EUGENE APT. HEPPNER JOHN DAY d KLAMATH FALLS APT.	40 Report	32 20 41 Delayed 36 Delayed Delayed 26	LAKEVIEW MEDFORD APT. NYSSA PENDLETON APT. PORTLAND APT. ROSEBURG APT. SALEM APT. THE DALLES	30 34 75 38 54 55 60	27 22 58 35 63 43 43 43			

⁽a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed. (d) As percent of Canyon City average.



WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS OREGON

as of
JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1960 outlook for irrigation water supplies in Malheur County, as of this early winter date, is exceptionally poor. Conditions are somewhat worse than last year and are closely similar to the situation prevailing in the short water year of 1955.

Contributing heavily to the poor water outlook for this year is the lack of normal "carry-over" storage water in local reservoirs resulting from the exceptionally poor streamflow of last year.

SNOW COVER

The most discouraging feature in the present outlook is the conspicuous shortage of mountain snow-pack. Even with the recent New Year storms the water content of the snow is only about 28 percent of the normal for January 1st.

Normally about four-tenths of the total winter "snow crop" should be on the watersheds by January 1st. This year there is only about one-tenth of a normal "snow crop" at this date. It is possible, although not likely, that future storms will be heavy enough to make up the difference.

Beginning on February 1st, a series of aerial readings of snow depth gages will supplement the usual ground snow surveys. These observations will aid considerably in the evaluation of water supply conditions.

SOIL-MOISTURE

Malheur County farmers and ranchers are well aware of the exceptionally dry soils throughout the watersheds. These dry soils will soak up much of the early snow-melt next spring before actual streamflow can begin.

RESERVOIRED WATER

Total stored water in the three big reservoirs of the county is less than half of what it was last year at this date and only 55 percent of the normal. Storage in the Owyhee is 45 percent of last year while on the Malheur River combined storage in Agency Valley and Warmsprings Reservoirs is only 33 percent of last year.

STREAMFLOW

So far this year, beginning October 1st, flow of the Owyhee and Malheur Rivers has been around 65 percent of normal.

However, flows of these streams during the coming irrigation season (April-September) are expected to be greatly below normal unless subsequent storms produce much above normal amounts of snow.

Report prepared by:

W. T. FROST AND BOB L. WHALEY

U.S.DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.)

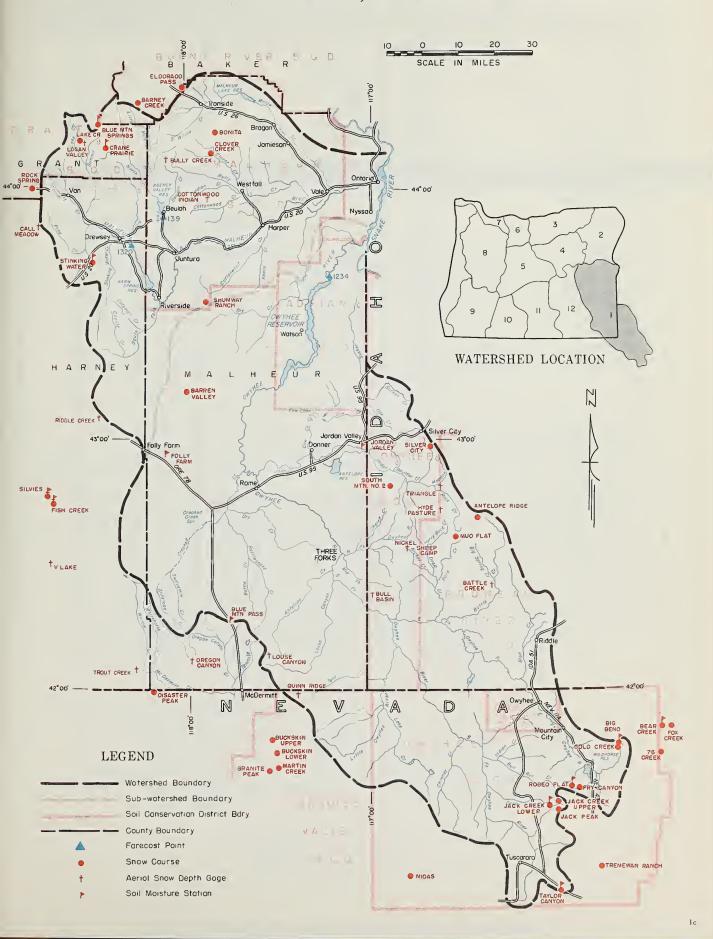
STREAM or AREA	FLOW	PERIOD	RESERVOIR	USABLE	MEASUR	ED (First o	f Month)
STREAM OF AREA	SPRING SEASON LATE SEASON		RESERVOIR		THIS YEAR	LAST YEAR	NORMAL &
Boulder Creek Bully Creek Cow Creek Jordan Creek Jordan Valley Irrigation District McDermitt Creek Oregon Canyon Creek Owyhee Project Sucker Creek Ten Mile Creek Vale, Oregon Irrigation District Warm Springs Irrigation District Willow Creek	Forecasts the Febru report wh reach you February	ich will about	Agency Valley Antelope Owyhee Warm Springs	60.0 36.5 715.0 191.0	16.1 f 208.7 27.1	19.2 467.0 112.3	2.5 377.8

STREAMFLOW FORECASTS (1,000 Ac. Ft.)

	FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	TPERIOD NORMAL b AS P	ORECAST PERIOD NORMAL b	THIS YEAR AS PERCENT
NO.	NAME	THIS TEAR			OF NORMAL	
1320	Malheur near Drewsey	с	April-Sept.	81		
139	Malheur North Fork at Beulah	с	April—Sept.	64		
1234	Owyhee Reservoir net Inflow ^g	c	April—Sept. April—July March—July	426 409 522		

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) USBR records of inflow.

OWYHEE, MALHEUR WATERSHEDS



SNOW		CUR	RENT INFORMA	TION	PAST RECORD			
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONT	ENT (Inches)	YEARS IN	
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	NORMAL b	
Barney Creek	5950	с						
Barren Valley	4200	f						
Battle Creek ^e	5700	С						
Bear Creek	7800	f	1					
Big Bend	6700	12/30	7	1.4	0.8		2	
Blue Mountain Springs	5900	12/23	5	1.1	0.0	6.9	14	
Buckskin, Lower	6700	С			1			
Buckskin, Upper	7200	С						
Bull Basin ^e	5600	С						
Bully Creek ^e	5300	С						
Call Meadows ^e	5340	С						
Clover Creek	4100	f						
Cottonwood-Indian e	4320	С						
Crane Prairie	5375	С						
Disaster Peak	6500	С						
Eldorado Pass	4600	12/28	7	0.9	1.3		2	
Fish Creek	7900	c						
Fox Creek	6800	f	i					
Fry Canyon	6700	12/30	8	1.7	0.7		2	
Gold Creek	6600	12/30	4	?	1.2		2	
Granite Peak	7800	С						
Hyde Pasture e	5800	c						
Jack Creek, Lower	6800	12/30	6	1.0	Т		2	
Jack Creek, Upper	7250	12/30	9	1.4	2.5		2	
Jack Peak	8420	С		_				
Lake Creek	5120	12/28	12	2.1			1	
Logan Valley e	5100	c .						
Louse Canyon e	6440	С						
Martin Creek	7200	С						
Midas	5700	С						
Mud Flat	5500	f	1		1			
Nickel Sheep Campe	5450	c						
Oregon Canyon e	7240	С			,			
Quinn Ridge e	6200	С						
Riddle Creek e	5300	c						
Rock Springs	5100	12/23	2	0.4	0.0	2.8	14	
Rodeo Flat	6800	12/30	7	1.6	0.7		2	
Shumway Ranch	4500	f						
Silver City	6400	12/27	13	2.3	1.5	7.9	8	
Silvies	6900	C 10/00	1.7	1.0	0.0	4.0	10	
South Mountain No. 2	6340	12/29	11	1.9	0.8	4.8	13	
Stinking Water	4800	12/28	3	1.2	T	2.3	8	
Taylor Canyon	6200	12/31	8 T	1.2	1.7		2	
Tremewan Ranch	5700	12/30	T	Т	Т		2	
Triangle	5150	С						
Trout Creek ^e	7800	С						
76 Creek	7100	c c						
"V" Lake ^e	6600	C			1			

WATER SUPPLY OUTLOOK BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS OREGON

as of
JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE. OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for northeastern Oregon is for below normal spring and summer streamflow. Irrigators without adequate carry-over storage will have a poor late season run-off unless unusually heavy snowfall occurs during the next few weeks.

Streams heading on low elevation watersheds are likely to experience low peak flows and short irrigation seasons.

SNOW COVER

Usually about 38 percent of the years total snow pack is on the ground by this time - this year only 15 percent has accumulated.

Snow cover in this area averages only two-fifths of the January 1st normal and will require extremely heavy snow-fall to produce a normal irrigation season.

SOIL - MOISTURE

Soil moisture conditions are good in the northwestern section of the area but steadily decrease as you travel south and east towards Blue Mountain Summit. There the soils are very dry and will require much moisture from the melting snow to satisfy their deficiency.

RESERVOIR STORAGE

Unity Reservoir is only 53 percent of normal, indicating little "carry-over" storage from last season. Wallowa Lake is 127 percent of normal for this time of year and now holds almost two-thirds of its total usable capacity.

Report prepared by:

W. T. FROST AND BOB L. WHALEY

U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

209 S.W. FIFTN AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Paor", "Fair" "Average" or "Excellent"

RESERVOIR	STORAGE	(1,000	Ac. Ft.
-----------	---------	--------	---------

STREAM or AREA	FLOW PERIOD		RESERVOIR	USABLE	MEASUR	ED (First o	of Month)
STREAM OF AREA	SPRING SEASON LATE SEASON	CAPACITY	THIS YEAR	LAST YEAR	NORMAL		
Alder Slope Baker Valley Big Creek Clover Creek (near North Powder) Cove Durkee Eagle Valley Elgin Enterprise - Joseph Hereford - Bridgeport Imnaha River LaGrande - Island City Lostine - Wallowa North Powder River - Wolf Creek Pine Valley Powder River - Elk Creek Summerville Sumpter Valley Union - Hot Lake Unity	Forecasts the February report wh reach you February	ary 1 ich will about	Unity Wallowa Lake	25.2	3.2 26.9	6.8	6.0 21.1

STREAMFLOW FORECASTS "(1,000 Ac. Ft.)

	FORECAST POINT	FORECAST	FORECAST PERIOD	NORMAL b	THIS YEAR AS PERCEN
NO.	NAME	THIS YEAR	TONE SAST Y ENGINEER		OF NORMA
1815	Bear near Wallowa	с	April-Sept.	74	
143	Burnt near Hereford d	c	April-Sept.	43	
185	Catherine near Union	c	April-Sept.	73	1
1816	Grande Ronde at LaGrande	c	April-Sept.	202	
1814	Hurricane near Joseph	С	April-Sept.	49	
172	Imnaha at Imnaha	С	April-Sept.	314	
1810	Lostine near Lostine	С	April-Sept.	133	
152	Powder near Baker	С	April-Sept.	66	
		С	April-July	65	
1822	Wallowa East Fork near Joseph d	С	April-Sept.	12.1	
	-	с	April-July	9.7	
		•			
	9				
					1

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS



Burnt, Powder, Pine, Grande Ronde, Imnaha Watersheds

NOW		CURRENT INFORMATION			PAST RECORD			
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONT	ENT (inches)	YEARS IN	
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	NORMAL	
Aneroid Lake No. 1	7480	с						
Aneroid Lake No. 2	7000	c			1	-		
Anthony Lake	7125	12/29	19	4.4	4.9	12.9	14	
Bald Mountain ^e	6700	c c	13	7.7	4.5	12.5	1.4	
Barney Creek	5950	c						
Beaver Reservoir	5340	12/29	10	2.2	1.5	4.8	14	
Blue Mountain Summit	5098		6	0.8	0.5	4.8		
Bourne	5800	12/29	0	0.0	0.5	4.0	15	
		С			l			
Camp Carson	5970	c		0.0	0.0			
County Line	4800	12/30	7	0.8	0.8	3.0	6	
Dooley Mountain	5430	12/28	9	1.3	1.5	4.0	15	
Eilertson Meadows	5400	12/27	10	1.0	1.5	4.5	10	
Eldorado Pass	4600	12/28	7	0.9	1.3		2	
Gold Center	5340	С						
Goodrich Lake	6775	С						
Little Alps	6200	12/29	8	1.4	0.8		0	
Lucky Strike	5050	c			1			
Meacham	4300	12/27	5	1.9	0.0		3	
Moss Springs	5850	12/29	22	6.4	3.8	10.8	15	
Schneider Meadows	5400	c			1			
Schoolmarm	4775	12/30	7	0.7	0.9	3.1	7	
Summit Springs	6000	c			1	-		
Taylor Green	5740	c						
Tipton	5100	-12/28	10	1.4	1.3	4.2	5	
Tollgate	5070	12/26	14	3.5	2.4		3	
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WATER SUPPLY OUTLOOK UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS OREGON

as of JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for watersheds of this area, although better than at this time last year, is still much below average. Streams with little or no carry-over storage will need a significant increase in snow cover to produce a good irrigation season.

Streams heading in low elevations are likely to have a low peak flow and a rapid decrease in seasonal run-off.

SNOW COVER

Water content of the mountain snow-pack, although better than double what it was at this time last year, is only about 30-35 percent of the 15 year average (1943-57) for January 1st.

Usually by this time of the year close to four-tenths of the total "snow crop" is on the ground. This year less than half of this amount had fallen at the time of measurement. Although New Year's storms have improved this situation, unusually heavy snowfall is needed to bring the snow-pack up to normal.

SOIL-MOISTURE

Soils on most of the lower watersheds of this area contain very little fall moisture. Precipitation has been far below normal at lower elevations of the watersheds. Mountain soils at higher elevations have had enough precipitation to be partially primed but will still absorb a noticeable amount of snow water before run-off occurs.

RESERVOIR STORAGE

McKay and Cold Springs Reservoirs average 85 percent normal storage, with McKay being only 46 percent and Cold Springs 135 percent of normal for January 1st. This is 13 percent lower than last year at this time.

STREAMFLOW

Streamflow since October 1st on the Umatilla River* has averaged only 88 percent of normal. The October and November flows were much above average but December dropped to 30 percent of normal.

*Preliminary data from U.S. Geological Survey, Portland, Oregon.

OFT PREPARED BY:

W. T. FROST AND BOB L. WHALEY

U.S.DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair"

STREAM or AREA	FLOW PERIOD				
	SPRING SEASON	LATE SEASON			
Birch Creek Butter Creek Dry Creek Dry Creek Dugger Creek Johnson Creek McKay Creek Mill Creek Mud Creek Pine Creek Rhea Creek Rock Creek Umatilla River (Cold Springs Res.) Umatilla River, Main Umatilla River, Little Walla Walla River, Little Walla Walla River, Main Walla Walla River, S. Fork Walla Walla River, S. Fork	Forecasts the Febru report wh reach you February	ary 1 ich will about			

RESERVOIR STORAGE	(1,000	Ac. Ft.)		
RESERVOIR	USABLE	MEASUR	f Month)		
RESERVOIN	CAPACITY	THIS YEAR	LAST YEAR	NORMAL b	
Cold Springs McKay	50.0 74.0	27.3 11.9	22.3 25.1	20.2	

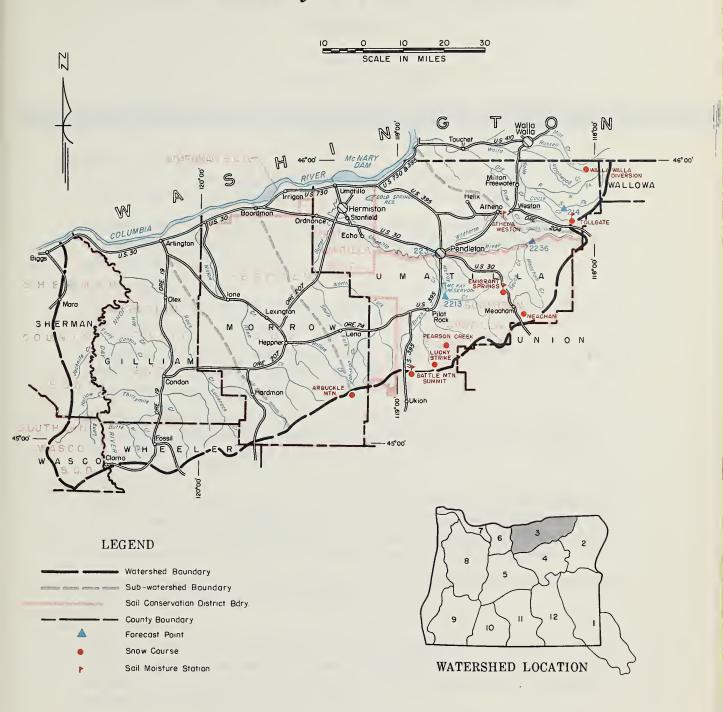
STREAMFLOW FORECASTS (1,000 Ac. Ft.)

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL b	THIS YEAR AS PERCENT OF NORMAL
2213 2236 223	McKay near Pilot Rock Umatilla near Gibbon Umatilla at Pendleton	c c c	April-Sept. April-July April-Sept. April-Sept. April-July	31 31 96 187 182	
214	Walla Walla, South Fork near Milton	С	April-Sept. April-July	76 62	

NOW	CURRENT INFORMATION			PAST RECORD			
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONTENT (Inches)		YEARS IN
NAME	ELEVATION	SURVEY	(Inches)	(inches)	LAST YEAR	NORMAL b	NORMAL b
Arbuckle Mountain	5400	С					
Battle Mountain Summit	4340	12/29	3	0.8			0
Emigrant Springs	3925	12/28	3	1.0	0.0		3
Lucky Strike	5050	c					
Meacham	4300	12/27	5	1.9	0.0		3
Pearson Creek	3000	С					
Tollgate	5050	12/26	14	3.5	2.4		3
			1				

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS



Umatilla, Walla Walla, Willow, Rock, Lower John Day Watersheds

WATER SUPPLY OUTLOOK UPPER JOHN DAY WATERSHEDS OREGON

as of JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The water supply outlook for the Upper John Day watersheds is a little better than on January 1st last year but is still much below average.

Irrigators of this region are dependent on natural streamflow and are likely to experience a short irrigation season this year if the winter continues mild as it has to date.

SNOW COVER

Water content of the snow cover, although a little better than at this time last year, is still only 32 percent of normal.

Usually by January 1st about four-tenths of the total "snow crop" is on the watershed. At the date of measurement this year only a little better than one-tenth of the normal snow-pack had accumulated.

Although the storms around New Year's have improved this condition, it will take unusually heavy snowfall during the next few weeks to produce a normal snow cover in this area.

SOIL-MOISTURE

Soils at Blue Mountain Summit are very dry and are only slightly wetter in the Marks Creek and Starr Ridge areas. Low soil moisture last year coupled with below normal precipitation this fall, leave most of the soils on the watersheds of this area dryer (with less soil moisture) than last year at this time.

Several inches of water from the snow-pack will be absorbed by the mountain soils before run-off reaches the streams.

STREAMFLOW

The flow of the John Day River at Service Creek* since October 1st has averaged only 72 percent of normal. October and November were above normal but December dropped to only 36 percent of the 1943-57 average, bringing the three month average down.

*Preliminary data from U.S. Geological Survey, Portland, Oregon.

Report prepared by:

W. T. FROST AND BOB L. WHALEY

U.S.DEFARMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

203 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Paar", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD			
OTTICANI OF AREA	SPRING SEASON	LATE SEASON		
Beech Creek Beech Creek-Fox-Long Cr. Bridge-Mountain Creeks Camas Creek Cherry Creek Indian-Pine Creeks John Day River, Main Fork John Day River, N. Fork John Day River, S. Fork Monument-Kimberly Strawberry Creek	Forecasts the Febru report wh reach you February	ary l ich will about		

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR STORAGE (1,000 AC. 11.7						
RESERVOIR	USABLE	MEASURED (First of Mon				
RESERVOIN	CAPACITY	THIS YEAR	LAST YEAR	NORMAL 6		
	ŀ					
		!				

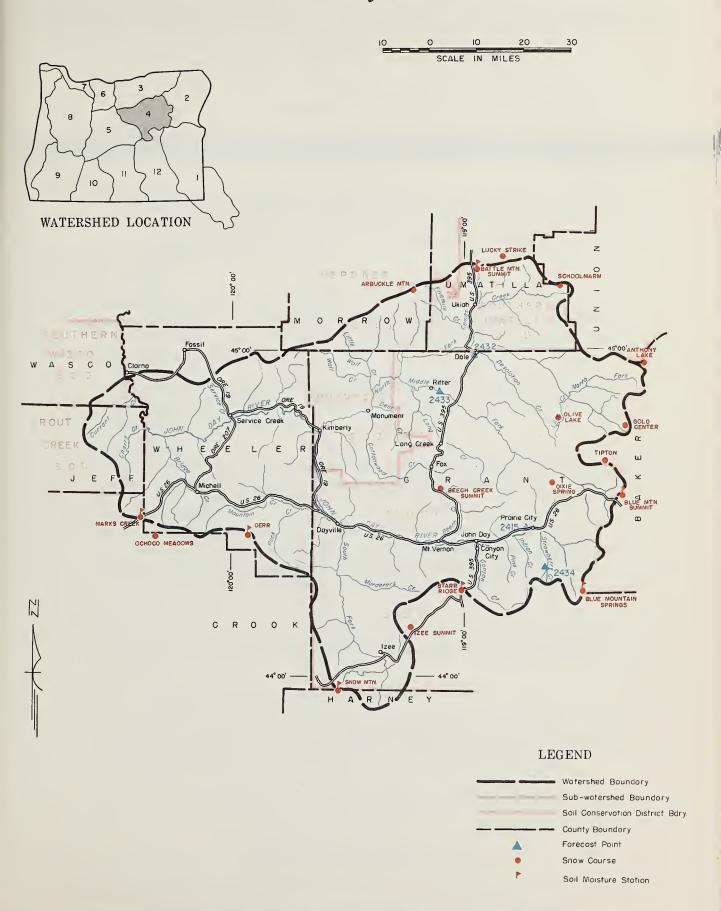
STREAMFLOW FORECASTS (1,000 Ac. Ft.)

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL 6	THIS YEAR AS PERCENT OF NORMAL
2415 2433 2434	John Day at Prairie City John Day, Mid. Fork at Ritter Strawberry near Prairie City	c c c	April-Sept. April-July April-Sept. April-Sept.	53 48 135 9.0	

NOW			CURRENT INFORMATION			PAST RECORD		
SNOW COURSE		SNOW DEPTH	WATER	WATER CONTENT (Inches)		YEARS IN		
ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	NORMAL b		
7125	12/29	19	4 . 4	4.9	12.9	14		
5400	c							
4340	12/29	3	0.8			0		
4800	12/29	4	1.2	0.0	2.5	5		
5900	12/23	5	1.1	0.0	6.9	14		
5098	12/29	6	0.8	0.5	4.3	15		
5670	c							
6650	c			1				
5340	c							
5293	12/29	5	0.9	0.0	4.8	5		
5050	С							
4540	12/24	1	0.4	0.0		3		
5200	c			1				
1		1 1				14		
	12/30	7	0.7	0.9	3.1	7		
	С			1				
	'					5		
5100	12/28	10	1.4	1.3	4.2	5		
	7125 5400 4340 4800 5900 5098 5670 6650 5340 5293 5050 4540	T125 12/29 5400 c 4340 12/29 4800 12/29 5900 12/23 5098 12/29 5670 c 6650 c 5340 c 5293 12/29 5050 c 4540 12/24 5200 c 6000 12/29 4775 12/30 6300 c 5156 12/29	DATE OF SNOW DEPTH SURVEY	DATE OF SURVEY SURVEY WATER CONTENT (Inches)	DATE OF SURVEY	DATE OF SURVEY		

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed.

UPPER JOHN DAY WATERSHEDS



Upper John Day Watersheds

WATER SUPPLY OUTLOOK UPPER DESCHUTES, CROOKED WATERSHEDS OREGON

as of JANUARY I, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1960 outlook for spring and summer irrigation water supplies in most of the Deschutes River system is slightly better than a year ago but is still poor. Outlook for water in the Crooked River is exceptionally poor with very little reservoired water available.

SNOW COVER

The mountain snow-pack at nearly a record low, has a water content only 24 percent normal as of January 1st. There is even less snow on the Crooked River watershed. Some small additions to the snow-pack were made by the New Year storms just passed.

Normally, by January 1st, about four-tenths of the total winter "snow crop" should be on the watersheds. This year, however, only about one-tenth has accumulated to date.

SOIL-MOISTURE

Watershed soils are still only moderately wet (or less) and will quickly absorb several inches of snow-melt when the snow-pack disappears next spring.

RESERVOIRED WATER

Water stored in the four major reservoirs is about 85 percent normal and considerably less than at this date last year. Inflow to Ochoco Reservoir has been greatly limited by lack of precipitation and the present storage of 3,000 acre feet is far below the 23,000 held at this time last year.

STREAMFLOW

Flow of the Deschutes River at Moody* has been about 90 percent normal since October 1st but is falling off with colder temperatures and the lack of rainfall.

Flow of Crooked River is far below normal.

The principal controlling factor for spring and early summer run-off in this region is the mountain snow-pack. There is only a slim chance that future winter storms will be able to "make up" the present shortage of snow.

*Preliminary data from U.S. Geological Survey, Portland, Oregon.

Report prepared by:

W. T. FROST AND BOB L. WHALEY

U.S.DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed os "Poor", "Foir" "Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.)

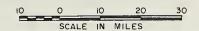
STREAM or AREA	FLOW PERIOD		FLOW PERIOD		RESERVOIR	USABLE	MEASUR	RED (First o	of i
SIREAW OF AREA	SPRING SEASON	LATE SEASON	RESERVOIR	CAPACITY	THIS YEAR	LAST YEAR	N		
Arnold Irrigation Dist. Bear Creek Beaver Creek Camp Creek Central Ore. Irrig. Dist. Crooked River Deschutes River Hay-Trout Creeks Lone Pine Irrig. Dist. Mill Creek North Unit Irrig. Dist. Ochoco Creek Sisters Irrigation Dist. Snow Creek Irrig. Dist. Squaw Creek Irrig. Dist. Swalley Ditch Tumalo Project Walker Basin Irrig. Dist.	Forecasts the Febru report wh reach you February	ich will about	Crane Prairie Crescent Lake Ochoco Wickiup	55.3 80.0 46.0 200.0	33.5 42.5 3.1 99.2	41.5 60.0 23.0 148.1			

STREAMFLOW FORECASTS "(1,000 Ac. Ft.)

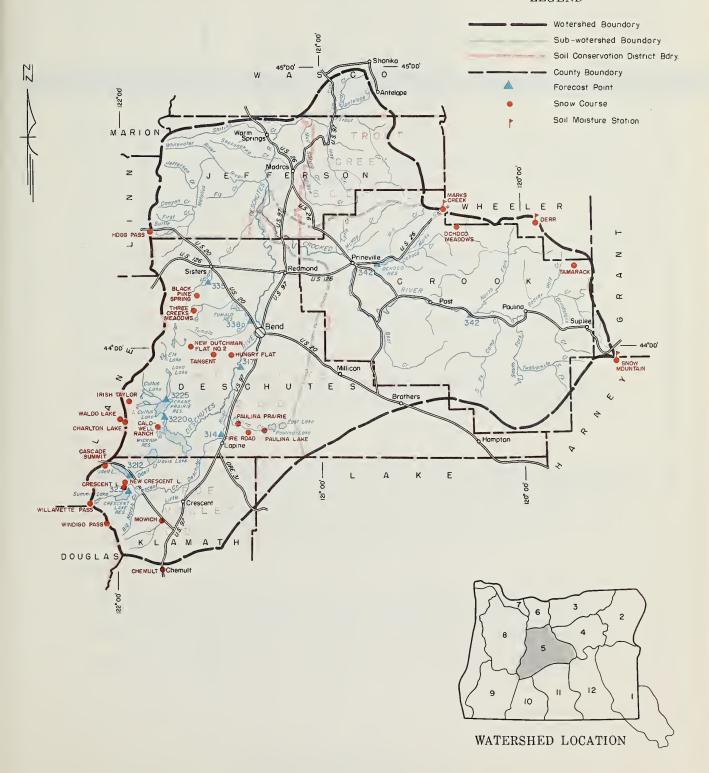
	FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL b	THIS YEAR AS PERCENT
NO.	NAME	THIS TEAR			OF NORMAL
3220a	Crane Prairie Reservoir net inflow	С	April-Sept.	143	
323	Crescent at Crescent Lake d	С	April_Sept.	31	
342	Crooked near Post	С	April-Sept.	129	
317	Deschutes at Benham Falls d	С	April-Sept.	602	
			April-July	404	
3225	Deschutes below Snow Creek	С	April—Sept.	74	
314	Deschutes, Little near Lapine ^d	С	April-Sept.	113	
			April-July	100	
3421	Ochoco Reservoir net inflow	С	April-Sept.	33 <i>g</i>	
3212	Odell near Crescent	С	April-Sept.	34	
335	Squaw near Sisters Tumalo near Bend d	С	April-Sept.	55	
338a	Tumdlo near Bend u	С	April-Sept.	55	

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) 1957 excepted.

UPPER DESCHUTES, CROOKED WATERSHEDS



LEGEND



Upper Deschutes, Crooked Watersheds

SNOW		CURRENT INFORMATION			PAST RECORD		
SNOW COURSE		DATE OF	SNOW DEPTH	WATER	WATER CONT	ENT (Inches)	YEARS IN
NAME	ELEVATION	SURVEY	(Inches)	CONTENT (Inches)	LAST YEAR	NORMAL b	NORMAL b
Black Pine Spring Caldwell Ranch Cascade Summit Charlton Lake Chemult Crescent Lake Derr Fire Road Hogg Pass Hungry Flat Irish-Taylor Marks Creek Mowich New Crescent Lake New Dutchman Flat No. 2* Ochoco Meadows Paulina Prairie Snow Mountain Tamarack Tangent Three Creeks Meadows Waldo Lake Willamette Pass Windigo Pass	4600 4400 4880 5750 4760 5670 5050 4755 4400 5500 4540 4700 4800 6400 5200 6330 4285 6300 4800 5400 5500 5600 5500 5600 5800	C C C 12/29 C C 12/28 C C C 12/28 C C C C C C C C C C C C C C C C C C C	15 8 14		2.8 1.9 0.6 0.0	15.6 5.8 18.4	9 14 15
*New snow course replacing New Dutchman Flat; normal is for old course.							

WATER SUPPLY OUTLOOK HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS OREGON

as of JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, DREGON AGRICULTURAL EXPERIMENT STATION and DREGON STATE ENGINEER

GENERAL OUTLOOK

The April-September streamflow outlook for Hood River Valley and Wasco County streams is poor. Snow survey measurements indicate less water content than was measured at this time last year.

SNOW COVER

The water content of the snow as measured this month is slightly lower than last years January 1st measurement and only 17 percent of the 1943-57 average.

By January 1st there is usually a little less than two-fifths of the total accumulation of snow on the ground. This year there is less than one-tenth of the total "snow crop" accounted for.

Although some snow has fallen since these measurements were made, it is very doubtful that subsequent storms will be heavy enough to overcome this shortage.

SOIL-MOISTURE

Soils on most of the watershed are drier than a year ago due to below normal precipitation during the October, November, and December period.

Higher elevation mountain soils were moderately wetted by rains that would ordinarily have been snow at these elevations.

STREAMFLOW

The Hood River* flowed only 84 percent of normal for October-December period. The above average flow in October was easily offset by below normal flows in November and December of 75 and 50 percent respectively.

*Preliminary data from U.S. Geological Survey, Portland, Oregon.

Report prepared by:

W. T. FROST AND BOB L. WHALEY

U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

209 S.W. FIFTM AVENUE, PORTLAND 4. OREGON

WATER SUPPLY OUTLOOK expressed os "Poor", "Foir" "Average" or "Excellent"

RESERVOIR STORAGE (1,000 Ac. Ft.)

STREAM or AREA	FLOW	PERIOD	RESERVOIR USABLE MEASUREI		ED (First o	(First of Month)	
SINEAM OF AREA	SPRING SEASON	LATE SEASON	RESERVOIR	CAPACITY	THIS YEAR	LAST YEAR	NORMAL
Aldridge Ditch Badger Creek Dee Irrigation District East Fork Irrig. Dist. Farmers Irrig. Dist. Glacier Irrig. Dist. Hood River Irrig. Dist. Juniper Flat Middle Fork Irrig. Dist. Mile Creeks Mill Creek Mount Hood Irrig. Dist. Rock-Gate-Threemile Crs. Tygh Creek White River	Forecasts the Febru report wh reach you February	ich will about					

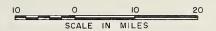
STREAMFLOW FORECASTS (1,000 Ac. Ft.)

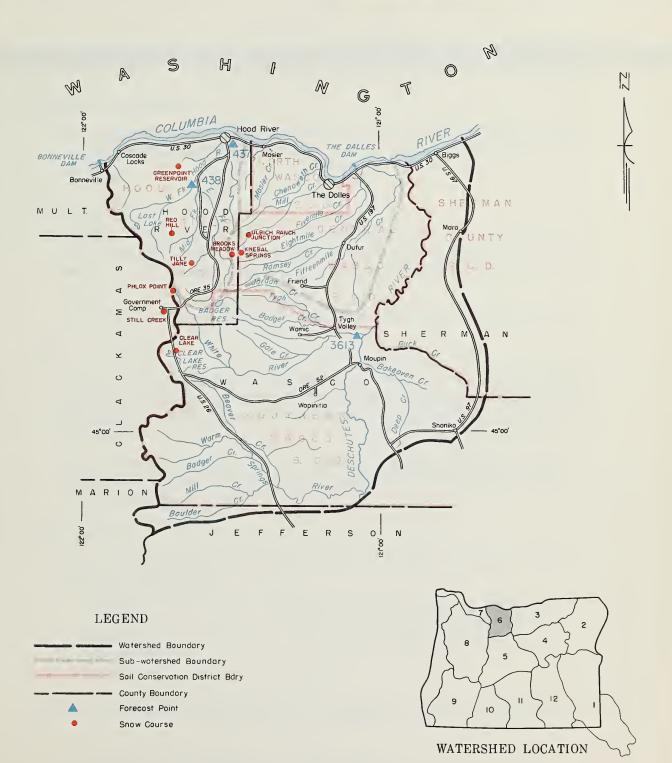
NO.	FORECAST POINT	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL b	THIS YEAR AS PERCENT OF NORMAL
NO.	паме				OF NORMAL
437	Hood near Hood River d	С	April—Sept. April—July	365 311	
438	Hood, West Fork near Dee	c	April-Sept. April-July	174 151	
3613	White below Tygh Valley	c	April-Sept. April-July	178 161	

NOW		CUR	RENT INFORMA	TION	PAST RECORD			
SNOW COURSE		DATE OF SNOW	SNOW DEPTH	WATER CONTENT	WATER CONTENT (Inches			
NAME	ELEVATION	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	NORMAL	
Brooks Meadows	4300	c						
Clear Lake	3800	12/28	1 1	0.2	т		0	
Clear Lake Experimental Course		12/28	1 2	0.3			0	
Greenpoint Reservoir	3400	c	-	0.0			Ü	
Knebal Springs	3850	c						
Phlox Point	5600	12/28	23	5.3	4.9	26.8	13	
Red Hill	4400	c					10	
Still Creek	3700	12/28	6	1.2	2.0	11.4	12	
Tilly Jane	6000	c						
Ulrich Ranch Junction	3350	С						

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS





Hood, Mile Creeks, Lower Deschutes Watersheds

WATER SUPPLY OUTLOOK LOWER COLUMBIA WATERSHEDS **OREGON**

as of JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1960 water supply outlook, at this early winter date, for the spring and summer flow of the Columbia River near The Dalles is definitely below normal.

SNOW COVER

The key snow courses measured near the 1st of January in the United States portion of the Columbia Basin indicate above normal snowfall in the northeast corner of the Basin and much below normal throughout the southern twothirds.

Canadian snow-cover is probably near normal or slightly above at this time.

SOIL-MOISTURE

Late fall rains throughout the northern half of the Basin raised soil-moisture to very high levels. Snowfall in this northern area should produce a high proportional run-off because of the good soil-moisture status beneath the snow-pack.

In the southern half of the Basin, in Oregon, Idaho, and eastern Wyoming, dry soils underlie the extremely light snow-pack and will reduce streamflow accordingly.

STREAMFLOW

Flow of the Columbia River near The Dalles* has been much above normal so far this water year.

Month	Percent of Normal Discharge (1943-57)
October	182 adjusted for storage
November	161 " " "
December	132 " " "

^{*}From preliminary data furnished by U.S. Geological Survey, Portland, Oregon

Report prepared by:	and:
W. T. FROST AND BOB L. WHALEY	M. W. NELSON
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209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON	P.D. Box 1247, Boise, Idaho

STREAMFLOW FORECASTS "(1,000 Ac. Ft.)

NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL 6	THIS YEAR AS PERCENT OF NORMAL
09 - B	Columbia at The Dalles	d d	April-Sept. April-June	106,100 72,000	

HISTORICAL DATA (Columbia River at The Dalles)

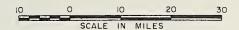
VEAD	\$	STREAMFLOW C (1,000 A.F.	PEAK ^e	DATE	
YEAR	APR.— SEPT.	APR. — JUNE	MAY - JUNE	(1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,500	54,600	47,300	505	June 8
1946	108,000	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,600	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,200	97,100	75,800	815	June 3
1957	115,200	79,200	67,200	700	May 22
1943-57 Avg.	106,700	71,900	58,100	616	
1958	97,700	72,000	58,600	593	May 31

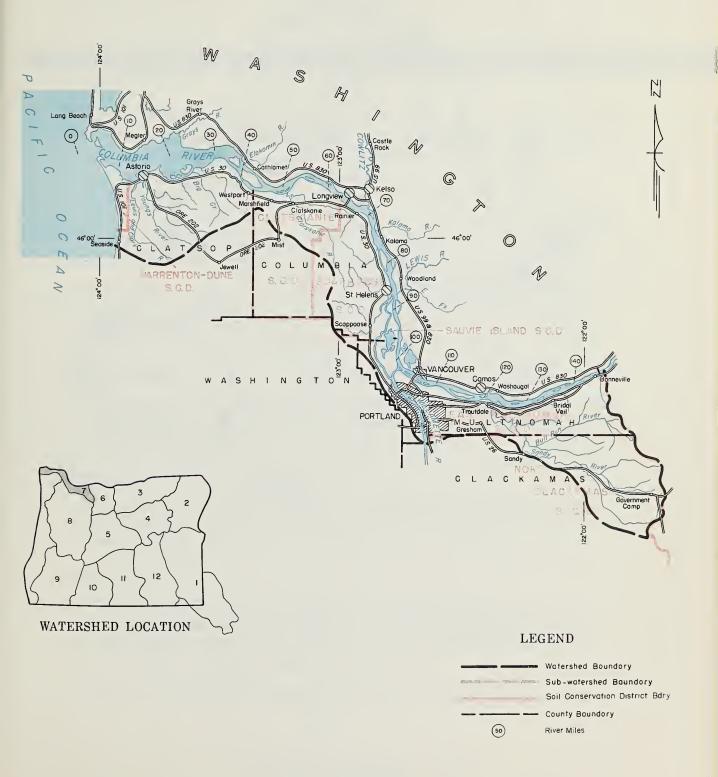
LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria) f

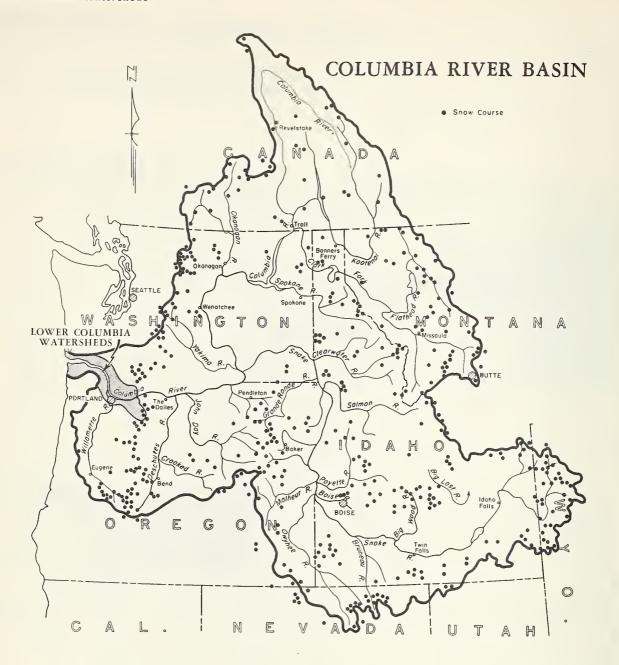
αα				DRAINAGE DISTRICT PUMPHOUSE								
VANCOUVER g	FLOW AT	SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	woodsor				
GAGE	THE DALLES				RIVER MILES							
(Weather Bu.)	(1,000 c.f.s)	118.9	96.0	91.0	77. 0	62.0	52.0	47. 0				
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5				
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0				
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3				
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7				
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0				
30	940	36.6	29.5	28.5	24.3	18.1	14.0	12.4				
29	890	35.5	28.5	27.7	23.7	17.5	13.4	11.8				
28	840	34.3	27.5	26.7	22.8	17.0	13.0	11.4				
27 (1956)	790	33.0	26.5	25.6	21.8	16.2	12.5	11.0				
26 (1950)	750	32.1	25.5	24.6	20.9	15.5	12.2	10.7				
25	700	30.7	24.2	23.2	19.7	14.6	11.7	10.3				
24	660	29.7	23.0	22.2	19.0	14.1	11.4	10.2				
23	630	29.0	22.3	21.4	18.4	13.6	11.2	10.0				
22	590	28.1	21.4	20.3	17.2	13.0	10.9	9.7				
21	560	27.2	20.7	19.5	16.4	12.6	10.6	9.6				
20	530	26.2	19.8	18.6	15.5	12.1	10.2	9.4				
19	510	25.5	19.2	18.0	15.0	11.8	10.0	9.3				
18	480	24.4	18.3	17.2	14.3	11.4	9.8	9.1				
17	450	23.4	17.4	16.4	13.7	11.0	9.6	8.9				
16	430	22.4	16.5	15.5	13.0	10.5	9.3	8.7				

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Observed flow corrected for storage in F.D.R., Kootenai, Pend Oreille, Flathead, Hungry Horse, Lake Chelan, Coeur d'Alene and Grand Coulee Equalizer. (d) Not scheduled. (e) Observed peak. (f) Based on Corps of Engineers automatic water stage recorder data. (g) Vancouver Weather Bureau gage zero is 1.82' above M.S.L. All other readings are in feet above M.S.L.

LOWER COLUMBIA WATERSHEDS







WATER SUPPLY OUTLOOK WILLAMETTE WATERSHEDS OREGON

as of
JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1960 outlook for spring and summer water supplies in Willamette Valley, as of this early winter date, is only fair in spite of the fact that there is more snow than at this date last year.

SNOW COVER

The mountain snow-pack is considerably below normal and contains only 19 percent of the normal January 1st water content.

Normally, about four-tenths of the total winter "snow crop" should be on the watersheds by January 1st. This year there is less than one-tenth of a normal "snow crop" at this date. Many unusually heavy winter storms will be needed to make up the difference.

SOIL-MOISTURE

Fortunately the mountain watershed soils are fairly well primed by warm rains at high altitudes previous to the winter freeze up. This will favor satisfactory run-off of snow-melt water.

RESERVOIRED WATER

The five major multi-purpose reservoirs are at or near their usual levels for this time of the year with plans completed to fill them gradually during the winter, reaching capacity in early summer.

STREAMFLOW

Flow of the Middle Fork of the Willamette* has been only 39 percent normal during the October through December period. Spring and summer flow of all Willamette streams will be considerably below normal unless subsequent storms produce much above normal amounts of snow.

*Preliminary data from U.S. Geological Survey, Portland, Oregon.

PORT PREPARED by:

W. T. FROST AND BOB L. WHALEY

U.S.DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK "Average" ar "Fxcellent"

WATER SUPPLY DUILDUR "A	verage" ar "Ex	cellent"	
STREAM or AREA	FLOW PERIOD		
OTTEAM OF AILER	SPRING SEASON	LATE SEASON	
Calapooya Clackamas McKenzie Molalla Santiam, North Santiam, South Willamette, Coast Fork Willamette, Middle Fork	Forecasts the Febru report wh reach you February	ich will about	

RESERVOIR STORAGE (1,000 Ac. Ft.)

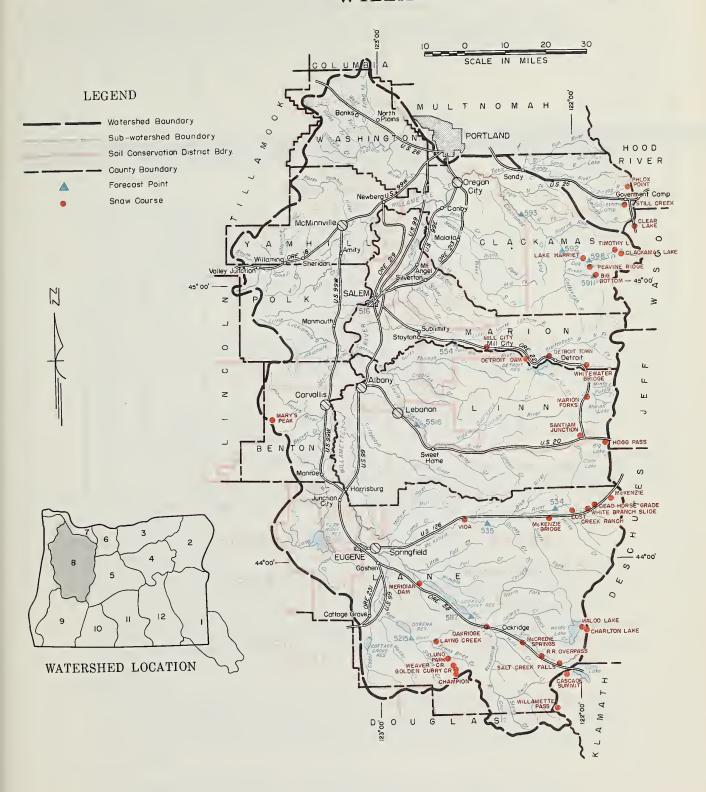
MEDERYON OTORNAL	(. ,			
RESERVOIR	USABLE	MEASUR	ED (First o	f Month)
RESERVOIR	CAPACITY	THIS YEAR	LAST YEAR	NORMAL b
Cottage Grove Detroit Dorena Fern Ridge Lookout Point	30.0* 299.9* 70.5* 94.2* 337.2*	0.1 0.5 0.9 0.2 2.5	0.1 12.1 2.8 0.2 6.3	3.1 5.3 15.8
*Multiple purpose reservoirspace reserved primarily for flood runoff.				

STREAMFLOW FORECASTS (1,000 Ac. Ft.)

	FORECAST POINT	FORECAST	FORECAST PERIOD	NORMAL b	THIS YEAR AS PERCEN
NO.	NAME	THIS YEAR			OF NORMAL
5911	Clackamas at Big Bottom	С	April-Sept. April-July	184 150	
595	Clackamas at Estacada	С	April-July April-Sept. April-July	879 763	
592	Clackamas above Three Lynx	С	April-Sept. April-July	67 4 578	
534	McKenzie at McKenzie Bridge	С	April-Sept. April-July	640 488	
535	McKenzie near Vida	с	April-Sept. April-July	1362 1120	
598	Oak Grove Fork above Power Intake	c	April-Sept. April-July	198 156	
5215	Row near Dorena	с	April-Sept. April-July	113	
554	Santiam, North at Mehama d	c	April-Sept. April-July	968 865	
5516	Santiam, South at Waterloo	c	April-Sept. April-July	652 616	
5117	Willamette, Mid. Fork below North Fork near Oakridge	с	April-Sept. April-July	909 804	
516	Willamette at Salem d	с	April-Sept. April-July	5320 4810	

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed.

WILLAMETTE WATERSHEDS



Willamette Watersheds

SNOW		CURRENT INFORMATION			PAST RECORD			
SNOW COURSE		DATE OF	SNOW DEPTH	WATER	WATER CONT	ENT (Inches)	YEARS IN	
NAME	ELEVATION	SURVEY	(Inches)	CONTENT (Inches)	LAST YEAR	NORMAL b	NORMAL	
Big Bottom	2118	1/1	5	0.6	0.0	2.2	6	
Cascade Summit	4880	12/29	15	5.1	2.8	15.6	9	
Champion	4500	12/29	18	3.9	0.0	10.5	8	
Charlton Lake	5750	12/20 c	1 10	0.5	0.0	10.5	0	
Clackamas Lake	3400	c						
Clear Lake	3500	12/28	1	0.2	т		0	
Clear Lake Experimental Course	3300	12/28	2	0.3			0	
Dead Horse Grade	3800	12/28	9	1.5	0.0	7.8	6	
Detroit Town	1600	12/28	0 1	0.0	0.0	0.3	7	
Detroit Dam	1580		0	0.0	0.0	0.3	7	
Golden Curry Creek		12/28	2	0.5	0.0	5.0	7	
	3136	12/28			0.6			
Hogg Pass	4755	12/28	14	2.7	0.0	18.4	15	
Lake Harriet	2045	1/1	6	0.8		1.0	6	
Layng Creek	1200	12/28	0	0.0	0.0	T	7	
Lost Creek Ranch	1746	12/28	0	0.0	0.0	0.0	5	
Lund Park	1740	12/28	0	0.0	0.0	1.4	7	
Marion Forks	2730	12/28	2	0.2	0.0	5.7	15	
Marys Peak	3620	c		0.0				
AcCredie Springs	2120	12/29	0	0.0	0.0	0.5	8	
McKenzie	4800	12/28	17	3.9	3.4	17.8	6	
McKenzie Bridge	1372	12/28	0	0.0	0.0	T	6	
Meridian Dam	750	12/29	0	0.0	0.0	0.0	8	
Mill City	826	12/28	0	0.0	0.0	0.0	6	
Dakridge	1310	12/29	0	0.0	0.0	0.1	8	
Peavine Ridge	3500	1/2	11	2.0	Т	7.5	15	
Phlox Point	5600	12/28	23	5.3	4.9	26.8	13	
Railroad Overpass	2750	12/29	T	Т	0.0	1.5	8	
Salt Creek Falls	4000	12/29	9	2.2	T	7.2	8	
Santiam Junction	3990	12/28	7	1.3	0.0	10.7	15	
Still Creek	3700	12/28	6	1.2	2.0	11.4	12	
Timothy Lake	3295	1/2	8	1.5	T		2	
<i>l</i> ida	800	12/28	0	0.0	0.0	0.0	6	
Waldo Lake	5500	С				1		
Weaver Creek	2440	12/28	0	0.0	0.0	0.4	6	
White Branch Slide	2800	12/28	0	0.0	0.0	2.1	6	
Whitewater Bridge	2175	12/28	Т	T	0.0	3.4	8	
Willamette Pass	5600	c						

WATER SUPPLY OUTLOOK ROGUE, UMPQUA WATERSHEDS OREGON

as of
JANUARY I, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1960 outlook for spring and summer water supplies in the Rogue-Umpqua area, as of this early winter date, is fair to poor. This in spite of the fact that there is now more snow at the higher elevations than was measured one year ago. Stored water supplies are only half the amount available at this date last year.

SNOW COVER

Water content of the sub-normal snow-pack is only 29 percent of the January 1st normal. New Year storms have added some since these surveys were made but many heavy storms will be needed if the "shortage" of snow is to be overcome.

Normally, about four-tenths of the total winter "snow crop" should be on the watersheds by January 1st. This year there is less than two-tenths of a normal "snow crop" at this date.

Douglas County Water Resources Survey begins measurements on six new snow courses this year on the Umpqua watersheds.

SOIL-MOISTURE

Mountain watershed soils are unusually dry for this time of year.

RESERVOIRED WATER

Water stored in four major reservoirs is only half the normal amount. Howard Prairier Reservoir is slowly increasing in storage with the new diversion canal bringing water from the South Fork of Little Butte Creek. Emigrant Lake is drawn down for construction purposes. Reservoired water supplies will probably be in short supply next summer unless unusually heavy storms change these conditions.

STREAMFLOW

Flow of the Rogue River at Raygold* has been only 42 percent normal during the December period. Spring and summer flow of southern Oregon streams will be considerably below normal if winter storms continue to be mild.

*Preliminary data from U.S. Geological Survey, Portland, Oregon.

Report prepared by:

W. T. FROST AND BOB L. WHALEY

U.S.DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed os "Poor", "Foir" "Average" or "Excellent"

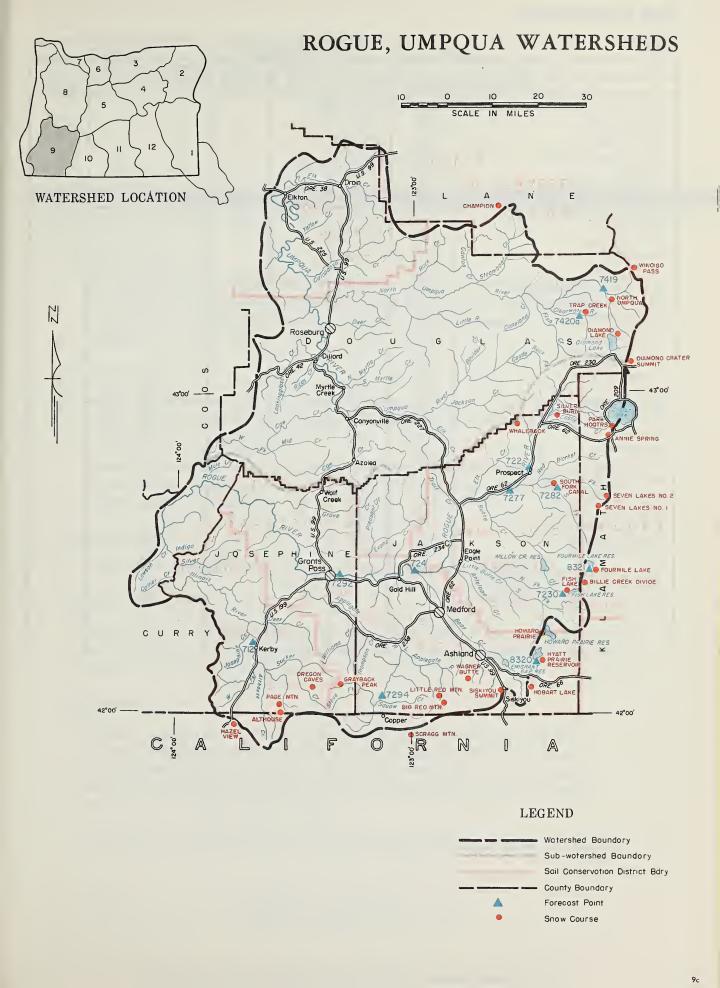
RESERVOIR STORAGE (1,000 Ac. Ft.)

STREAM or AREA	FLOW	PERIOD	RESERVOIR	USABLE	MEASUR	ED (First o	of Month)
STREAM OF AREA	SPRING SEASON	LATE SEASON	RESERVOIR	CAPACITY	THIS YEAR	LAST YEAR	NORMAL
Althouse Creek Applegate River, Big Applegate River, Little Ashland Creek Butte Creek, Little Butte Creek, Big Cow Creek Deer Creek Elk Creek Emigrant Cr. (above Res.) Evans Creek Gold Hill Irrigation Dist. Grants Pass Irrig. Dist. Grave Creek Illinois River, East Fork Illinois River, West. Fork Neil Creek Red Blanket Creek Rogue River Sucker Creek Table Rock Irrig. Dist. Thompson Creek Wagner Creek Williams Creek	Forecasts the Febru report wh reach you February	ich will about	Emigrant Gap Fish Lake Fourmile Lake Howard Prairie Hyatt Prairie	8.3 7.8 16.1 60.0 16.1	g 3.4 3.0 5.6 5.8	0.4 7.2 13.7 11.5	3.8 4.6 7.7 5.4

STREAMFLOW FORECASTS "(1,000 Ac. Ft.)

7294 7420a					OF NORMAL
	Applegate near Copper	С	April-Sept.	131	
	Clearwater above Trap Creek ^d	с	April-Sept.	73	
8321	Fourmile Lake net inflow d	с	April-Sept.	7.4	
8320	Hyatt Reservoir net inflow ^d	С	April-Sept.	6.2	
712	Illinois River near Kerby d	с	April-Sept.	196	
7230	Little Butte, North Fork below Fish Lake d	c	April-Sept.	16.9	
722	Rogue above Prospect	с	April-Sept.	351	
	J.		April-July	293	
7263a	Rogue, South Fork near Prospect d	с	April-Sept.	83	
			April-July	71	
7277	Rogue below South Fork	c	April-Sept.	749	
	·		April-July	608	
724	Rogue at Raygold near Central Point	с	April—Sept.	1004	
			April-July	842	
7292	Rogue at Grants Pass	С	April-Sept.	974	
7419	Umpqua, North Fork below Lake Creek d	с	April-Sept.	186	

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) Construction. (h) Not measured.



Rogue, Umpqua Watersheds

NOW		CUR	RENT INFORMA	TION	PAST RECORD		
SNOW COURSE		DATE OF	SNOW DEPTH	WATER	WATER CONTENT (Inches)		YEARS IN
NAME	ELEVATION	SURVEY	(Inches)	CONTENT (Inches)	LAST YEAR	NORMAL b	NORMAL
Althouse	4530	С					
Annie Spring	6018	12/28	27	5.3	0.7	17.7	12
Beaver Creek	5100	12/30	10	2.2			0
Big Red Mountain	6500	C					
Billie Creek Divide	5300	12/28	14	3.6	2.0	10.5	12
Champion	4500	12/28	18	3.9	0.0	10.5	8
Cold Springs Camp	6100	c					
Deadwood Jct.	4600	12/30	9	2.0			0
Diamond-Crater Summit	5800	12/24	21	3.0	3.8		Ö
Diamond Lake	5315	12/24	15	2.2	2.8	10.5	14
Fish Lake	4670	12/30	11	1.5	Т Т	6.2	14
Grayback Peak	6000	12/30 c	11	1.0	1	0.2	1.7
Hazel View	2500	c					
Hobart Lake	5010	h			1		
Howard Prairie	4560	12/30	7	1.0	1		0
Hyatt Prairie Reservoir	4900	12/30	8	1.8	T	4.4	14
Little Red Mountain	6500	c 12/30	0	1.0	1	7.7	14
	l .		9	1 0	т		
North Umpqua Page Mountain	4215	12/27	9	1.8	1		2
9	4045	c	9.0	7. 4	9.4	99.0	10
Park Headquarters	6450	12/28	32	7.4	3.4	23.0	12
Rye Spring Spur	5000	12/30	14	2.1			0
Seven Lakes No. 1	6800	С					
Seven Lakes No. 2	6200	c			, ,		3.5
Silver Burn	3720	12/24	7	1.4	1.5	5.1	15
Siskiyou Summit	4630	12/31	0	0.0	1.2	3.4	15
South Fork Canal	3500	12/24	1	0.5	Т	1.5	14
Trap Creek	3800	h					
Wagner Butte	6900	h					
Whaleback	5140	С					
Windigo Pass	5800	С					
lew Umpqua Snow Surveys							
Eden Valley Summit	2390	1/1	8	1.0			0
Ouartz Mountain No. 1	4500	12/30	14	2.6			l o
Quartz Mountain No. 2	4000	12/30	10	1.5			ů
Quartz Mountain No. 2	3700	12/30	8	1.2	1		0
Red Butte No. 1	4560	12/29	15	3.3			0
Red Butte No. 2	4000	12/29	7	1.4			0
TOU DUE TO HOT D	1	1 -5,50					
Douglas County Water Resources							
Survey begins 6 new snow surveys		1					
this year on Umpqua watersheds.							
Litto Jour on ompada nacoronodo							

WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON

as of
JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE . OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1960 outlook for spring and summer water supplies in the Klamath Basin, as of this early winter date, is only fair. The mountain snow-pack and reservoired water supplies are much below normal and watershed soils are unusually dry.

SNOW COVER

Water content of the present mountain snow-pack is only 29 percent normal. Many unusually heavy winter storms will be needed if the present snow "shortage" is to be overcome.

Normally, about four-tenths of the total winter "snow crop" should be on the watersheds by January 1st. This year there is less than two-tenths of a normal "snow crop" at this date.

SOIL-MOISTURE

Mountain watershed soils are unusually dry for this time of year.

RESERVOIRED WATER

Water stored in the three major reservoirs is 74 percent of the normal amount but only 55 percent of that available at this date last year. Storage in Gerber Reservoir is the lowest in many years.

STREAMFLOW

Inflow into Upper Klamath Lake* has been 84 percent normal during the October through December period. Spring and summer flow of all streams in the Klamath Basin is expected to be below normal with strikingly low flows to occur into both Gerber and Clear Lake Reservoirs unless unusually heavy winter storms are experienced.

*Preliminary data from California-Oregon Power Company, Medford, Oregon.

Report prepared by:

W. T. FROST AND BOB L. WHALEY

U.S.DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed os "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD		
STREAM OF AREA	SPRING SEASON LATE SEASO		
Ft. Klamath Valley Lost River (Clear Lake) Lost River (Gerber) Lost River (Willow Res.) Sprague River Upper Klamath Lake Williamson River	Forecasts the Febru report wh reach you February	nich will nabout	

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR	USABLE	MEASUR	RED (First of Month	
KESEKVOIK	CAPACITY	THIS YEAR	LAST YEAR	NORMAL &
Clear Lake Gerber Upper Klamath Lake	440.2 ^h 94.0 584.0	160.4 2.8 237.1	284.0 44.2 397.7	195.3 33.8 313.2

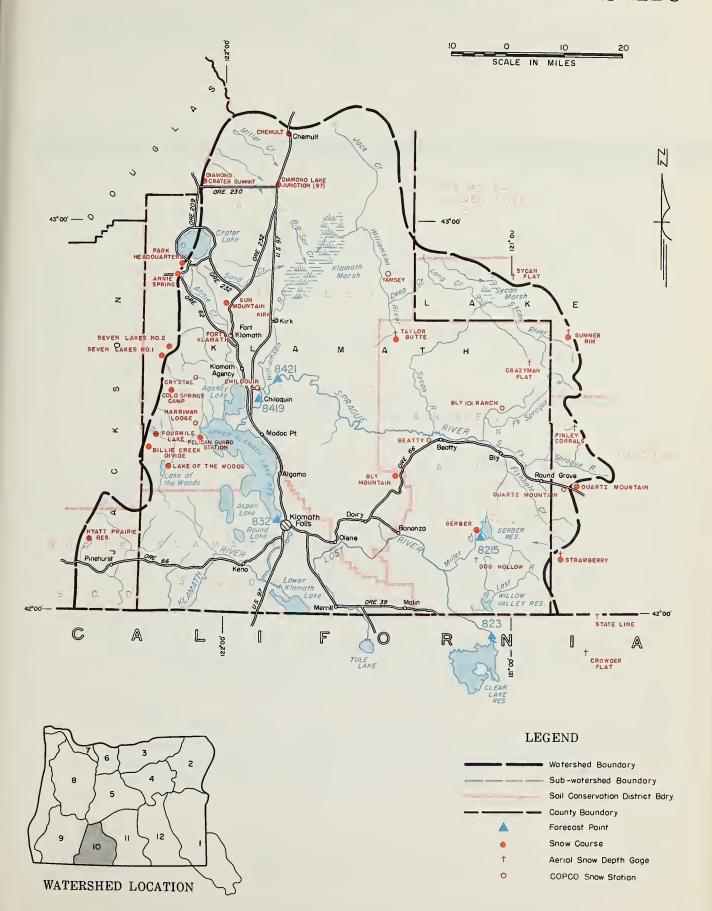
STREAMFLOW FORECASTS "(1,000 Ac. Ft.)

	FORECAST POINT		FORECAST PERIOD	NORMAL b	THIS YEAR AS PERCENT
NO.	NAME	THIS YEAR			OF NORMAL
823	Clear Lake Reservoir inflow ^g	с	April—Sept. March—July	50 88	
8215	Gerber Reservoir inflow ^g	c	April—Sept. March—July	25 44	
8421	Sprague near Chiloquin	c	April-Sept.	296	
832	Upper Klamath Lake net inflow ^g	c	April-Sept. April-July	632 518	
8419	Williamson below Sprague River	c	April—Sept. April—July	486 413	

SNOW		CURRENT INFORMATION			PAST RECORD			
SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONT	YEARS II		
NAME	ELEVATION	SURVEY	(Inches)	(inches)	LAST YEAR	NORMAL b	NORMAL	
Annie Spring	6018	12/28	27	5.3	0.7	17.7	12	
Beatty (COPCO)	4300	f						
Billie Creek Divide	5300	12/28	14	3.6	2.0	10.5	12	
Bly Mountain	5090	12/28	4	0.9	0.9		0	
Bly 101 Ranch (COPCO)	4800	f						
Chemult	4760	12/28	8	1.6	1.9	5.8	14	
Chiloquin (COPCO)	4187	f						
Cold Springs Camp	6100	С						
Crazyman Flate	6100	с						
Crowder Flat e	5200	с						
Crystal (COPCO)	4200	f						
Diamond-Crater Summit	5800	12/24	21	3.0	3.8		0	
Diamond Lake Junction (97)	4600	12/24	5	1.1	1.9		0	
Dog Hollow e	4900	C						
Finley Corrals e	6000	С						
Fort Klamath (COPCO)	4150	f						
Gerber	4850	f						
Harriman Lodge (COPCO)	4200	f						
Hyatt Prairie Reservoir	4900	12/30	8	1.8		4.4	14	
Kirk (COPCO)	4533	f						
Lake of the Woods	4960	12/28	6	2.4	1.7	5.2	14	
Park Headquarters	6450	12/28	32	7.4	3.4	23.0	12	
Pelican Guard Station	4150	12/29	4	0.6	T		0	
Quartz Mountain	5320	12/28	6	1.0	1.1	3.6	14	
Quartz Mountain (COPCO)	5504	12/28	8	1.0	1.4	3.7	13	
Seven Lakes No. 1	6800	c						
Seven Lakes No. 2	6200	С			1			
State Line e	5750	с					1	
Strawberry	5600	С						
Summer Rim	7200	c						
Sun Mountain	5350	12/22	6	1.0	3.1	12.0	15	
Sycan Flat e	5500	c						
Taylor Butte	5100	12/22	0	0.0	1.4		2	
Yamsey (COPCO)	4600	f						

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) From COPCO or USBR records of inflow. (h) Flashboards increase capacity to 513.0

KLAMATH WATERSHEDS



WATER SUPPLY OUTLOOK LAKE COUNTY, GOOSE LAKE WATERSHEDS OREGON

as of
JANUARY 1, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1960 irrigation water supply outlook for Lake County is one of the poorest on record. An exceedingly "short" snow-pack lies on exceptionally dry watershed soils. Most reservoirs hold little or no water as a direct result of last year's abnormally dry condition.

SNOW COVER

Water content of the mountain snow-pack is probably record low for January 1st. For the three snow courses measured, the snow is only 22 percent of the January normal.

In a normal season, nearly half of the winter "snow crop" is accumulated by January 1st. This year, however, only about one-tenth of the usual "snow crop" has accumulated.

Again this year, beginning the last of January, observers will make aerial readings from a series of snow depth gages. These observations will aid greatly in the evaluation of Lake County water supplies.

SOIL-MOISTURE

The amount of moisture in the watershed soils is far below normal this year. This is a clear reflection of the greatly sub-normal precipitation. These dry soils will soak up several inches of snow-melt water next spring before any real run-off begins to show in the streams.

RESERVOIRED WATER

Drews Valley Reservoir contains about 8,000 acre feet of water compared with 35,000 acre feet at this date last year. No report has been received as yet indicating that Cottonwood has begun to store water.

STREAMFLOW

Flow of all streams in Lake County is highly dependent upon the spring melt of the mountain snow-pack. Unless exceedingly heavy winter storms are experienced during the remainder of the winter, the flow of streams next spring and early summer will likely be nearly record low.

Report prepared by:

W. T. FROST AND BOB L. WHALEY

U.S.DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE

209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed os "Poor", "Fair" "Average" or "Excellent"

	FLOW	PERIOD
STREAM or AREA	SPRING SEASON	LATE SEASON
Chewaucan River Crooked Creek Deep Creek Dry Creek East Side Goose Lake Guano Lake Honey Creek Lakeview Water Users Assn. Rock Creek Silver-Buck Creeks Summer Lake Thomas Creek Warner Lakes	the Febru	nich will u about

RESERVOIR STORAGE (1,000 Ac. Ft.)

RESERVOIR STORAGE (1,000 AC. IC.)								
RESERVOIR	USABLE	MEASUR	f Month)					
RESERVOIR	CAPACITY	THIS YEAR	LAST YEAR	NORMAL &				
Cottonwood Drew	4.1 62.5	0.0 7.7h	0.0 35.2	0.2 34.8				

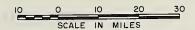
STREAMFLOW FORECASTS "(1,000 Ac. Ft.)

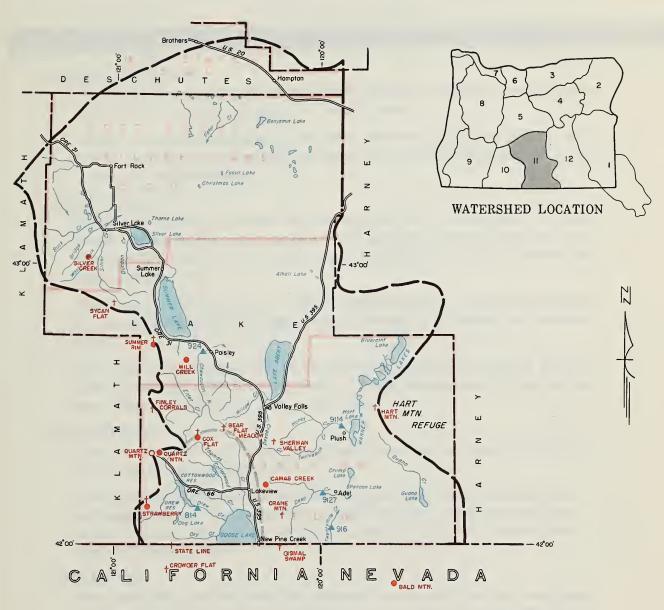
NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	NORMAL 6	THIS YEAR AS PERCENT OF NORMAL
924 9127 814 9114 916	Chewaucan near Paisley Deep above Adel Drew Reservoir net inflow Honey near Plush Twentymile near Adel	c c c c	April-June April-June April-July March-July April-June April-June	82 71 34 g 47 g 16.3 20	

ELEVATION	DATE OF	SNOW DEDTH	WATER			
ELEVATION		SNOW DEPTH	WATER CONTENT	WATER CONTENT (Inches)		YEARS IN
	SURVEY	(Inches)	(Inches)	LAST YEAR	NORMAL b	NORMAL
6720	С					
	c					
5750	С					
6020	С					
5200	С	i l				
7000	с	1				
6000	С					
6350	С					
6200	с					
5504		8	1.0	1.4	3.7	13
	12/28	6	1.0	1.1	3.6	14
	c					
	12/28	2	0.4	0.8		1
	С					
	С					
	С					
5500	С					
	5900 5720 5750 6020 5200 7000 6000 6350 6200	5900 c 5720 c 5750 c 6020 c 5200 c 7000 c 6000 c 6350 c 6200 c 5504 12/28 5320 12/28 6600 c 4900 12/28 5750 c 5600 c 7200 c	5900 c 5720 c 5750 c 6020 c 5200 c 7000 c 6000 c 6350 c 6200 c 5504 12/28 5320 12/28 6600 c 4900 12/28 5750 c 5600 c 7200 c	5900 c 5720 c 5750 c 6020 c 5200 c 7000 c 6000 c 6350 c 6200 c 5504 12/28 5320 12/28 6600 c 4900 12/28 5750 c 5600 c 7200 c	5900 c 5720 c 5750 c 6020 c 5200 c 7000 c 6000 c 6350 c 6200 c 5504 12/28 8 1.0 1.4 5320 12/28 6 1.0 1.1 6600 c 4900 12/28 2 0.4 0.8 5750 c 5600 c 7200 c	5900 c 5720 c 5750 c 6020 c 5200 c 6000 c 6350 c 6200 c 5504 12/28 6600 c 4900 12/28 6600 c 4900 12/28 5750 c 5600 c 7200 c

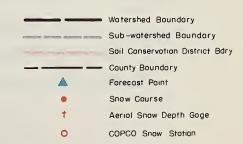
⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed. (g) 1943 and 1945 excepted. (h) Dec. 1, 1959.

LAKE COUNTY, GOOSE LAKE WATERSHEDS





LEGEND



Lake County, Goose Lake Watersheds

WATER SUPPLY OUTLOOK HARNEY BASIN WATERSHEDS OREGON

as of
JANUARY I, 1960

U.S.DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, OREGON AGRICULTURAL EXPERIMENT STATION and OREGON STATE ENGINEER

GENERAL OUTLOOK

The 1960 water supply outlook for Harney County, although improved somewhat over last year on January 1st, is still poor.

Storms occurring around New Years have improved conditions slightly but it is very unlikely that subsequent storms will lay down enough snow to produce a normal irrigation supply.

SNOW COVER

Usually by January 1st about 40 percent of the total "snow crop" is accumulated. Although the water content of the snow this year has improved over this time last year, most of the area still has less than 10% of a normal year's total accumulation.

Snow courses measured over the basin average slightly less than one-fourth the normal amount of water they should contain for a January 1st measurement.

Aerial snow depth gages will be observed starting the last week of January and continuing in February and March. These observations will add to the data collected by regular snow survey crews.

SOIL-MOISTURE

The watershed soils of Harney County are drier than last year at this time and in most cases unusually dry.

Fall precipitation* has been less than 50 percent of normal at Burns and although October had greater than normal rainfall, November and December had only 9 and 27 percent respectively to bring the 3 month average well below normal.

STREAMFLOW

The combination of low snow accumulation and dry soils on the watersheds will very likely cause shorter streamflow next spring and summer than was experienced last year.

It is possible, but past records indicate not very likely, that future storms will be able to make up this big deficit in the mountain snow-pack.

*Preliminary data provided by U.S. Weather Bureau, Portland, Oregon.

W. T. FROST AND BOB L. WHALEY
U.S.DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE
209 S.W. FIFTH AVENUE, PORTLAND 4, OREGON

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD			
STREAM OF AREA	SPRING SEASON	LATE SEASON		
Catlow Valley Cow Creek Donner und Blitzen River Mill-Coffeepot Creeks Rattlesnake Creek Silver Creek Silvies River Soldier-Prather Creek Trout Creek Whitehorse Creek	Forecasts the Febru report wh reach you February	ary 1 ich will about		

RESERVOIR STORAGE (1,000 Ac. Ft.)

	(.,,,,,,		<u> </u>	
RESERVOIR	USABLE	MEASUR	ED (First o	f Month)
RESERVOIR	CAPACITY	THIS YEAR	LAST YEAR	NORMAL &
				}
				1

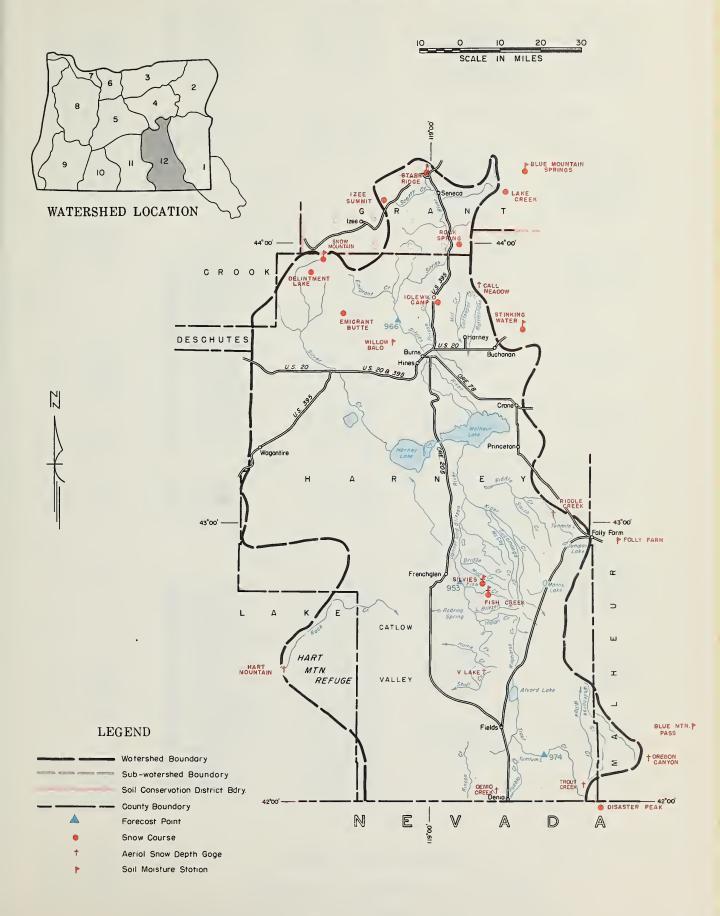
STREAMFLOW FORECASTS "(1,000 Ac. Ft.)

FORECAST POINT		FORECAST	FORECAST PERIOD	NORMAL b	THIS YEAR AS PERCENT
NO.	NAME	THIS YEAR	TORECASTTERIOD	WORMAL -	OF NORMAL
953	Donner und Blitzen near Frenchglen	c	April-Sept.	67	
966	Silvies near Burns	С	April-Sept.	107	
974	Trout near Denio	с	April-Sept.	9.2	

NOW		CURRENT INFORMATION			PAST RECORD		
SNOW COURSE		DATE OF SURVEY	SNOW DEPTH	WATER CONTENT (Inches)	WATER CONTENT (inches)		YEARS IN
NAME	ELEVATION		(Inches)		LAST YEAR	NORMAL b	NORMAL b
Blue Mountain Springs	5900	12/23	5	1.1	0.0	6.9	14
Delintment Lake	5600	c					
Disaster Peak	6500	с			1		
Emigrant Butte	5000	c					
Fish Creek	7900	c					
Hart Mountain e	6350	c					
Idlewild Camp	5200	12/23	3	0.3	0.0	2.7	14
Izee Summit	5293	12/29	5	0.9	0.0	4.8	5
Lake Creek	5120	12/28	12	2.1			1
Riddle Creek e	5300	c	12	2.1			_
Rock Spring	5100	12/23	2	0.4	0.0	2.8	14
Silvies	6900	c	2	0.1	0.0	2.0	11
Snow Mountain	6300	c					
Starr Ridge	5156	12/29	7	1.3	0.0	3.2	5
Stinking Water	4800	12/28	3	1.2	T	2.3	8
Trout Creek ^e	7800	12/20 c	3	1.2	1	2.3	0
Ifour Creek	/800	c	1				
		l .					
	1						
			11				

⁽a) Assuming normal meteorological conditions. (b) 1943-57, 15 year period. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage; water content estimated. (f) Report delayed.

HARNEY BASIN WATERSHEDS



Harney Basin Watersheds

NUMBER NAME LLCC.TOP. RGE, NUMBER NAME LGCATION CLC.	
OWYHEE, MALHEUR WATERSHEDS (1) Owyhee River Continued 15H3 76 Creek (Nev) 6 July con	LOCATION ELEV NUMBER NAME LOCATION ELEV. SEC. Tot. Agg. Sec. Tot. Agg.
UPPER DESCHUTES, CROOKED WATERSHEDS (2) 1573 Silver City (Ida) 6 5 395 Illino RONDE, IMPARA WATERSHEDS (2) 1771 Approach Lalver 2	ark Willamette River The Colifornia Oregon Pawer Campany's
The Part Creek 100 100 100 100 100 100 100 100 100 10	0 23 215 68 5750 1 Reatty (COPCO) 22 365 125 1200
1670 shill Basin 1828 Gold Center 21 98 36E 5340 1805 Mangham 28 3S 32E 5050 21F1 Character 23 21S 6S 5750 22F4 Salt Creek F. Sa	16 218 38 1310 3 Ghilequín (COPCO) 34 318 7E 1187 170455 27 228 58 2750 5 COPT (COPCO) 26 318 6E 1200 1818 33 228 6E 1000 5 Fort Riamath (COPCO) 27 338 74E 1150
18D7 Fish Creek (Nev) 33 LiE 5850 21Fil Fire Road 36 21s 11s 5050 22Fil Willamette Fr 18D7 Schoolmarm 28 LiS 316 1850 21Fil Fire Road 36 21s 11s 5050 18D1 Barney Creek 16 1lb 365 core Pawder River 18010 Sumit Springs 9 63 37E 6000 21Fil Roge Pass 24 135 7½E 4755	
1555 Gold Trainte Peak (Nev) 22 LLLN 39E 7800 17E3 Bonita 25 20S 6E 5500 Country Lake 18 7S 37E 7125 18D3 Tollgate 32 LN 38E 5070 21F17 Mowich 29 25S 25S 4700 18E5 Hyde Pasture (Ida) 31 85 2W 5800 18E3 Anthony Lake 29 25S 25S 4700 21F17 Mowich 29 25S 25S 4700 21F10 Now Cressent Lake 29	rk Willamette River 12 23S 1E 1500 LAKE COUNTY, GOOSE LAKE WATERSHEDS (III)
1662 Jack Creek, Upper (Nev) 9 42N 53E 7250 17EZ Clover Creek 36 168 39E 1300 18E3 Ellertson Meadows 18 83 38E 5400 18E3 Ellertson Meadows 18 83 3	R. S. 31 21S 1E 1200 22 22S 1E 17h0 Gaose take
1/165 Hidas (Nev) 18 39N 46E 7200 18E18 Lake Creek 10 16S 33E 500 18E18 18E1	20015 *Rear Flat Meadow 27 36S 19E 5900 2008 Cuns Creek 5 39S 21E 5720 20111 *Cov Flat 1
1633 ***********************************	Mary's River 20016 *Crano Hountain 13 165 275 692
1902 Arbuckle Mountain 33 Us 29E 5U00 20El Marks Creek 25 12S 19E 15U0	2010 *State Line (Cal) 21 h81 11E 5750 2009 Strawberry h h08 168 5600
1806 Emigrant Springs 29 1N 35E 3925 19F1 Snew Mountain 1 198 26E 6300 18D1 Ducky Strike 28 38 32E 505 19E1 Tanarack 8 15S 25E 1880 2304 Althouse	Rague River
1003 Toligate 32 LAN 38E 5070 18D13 Walla Walla Diversion 22 6N 38E 2400 HOOD, MILE CREEKS, 22F19 Olamond-Crat	tain 31 kps 17 6500 200k WFinley Corrals 11 36s 16E 6000 Divide 30 36S 5E 5300 2006 Quarte Mountain 2 38s 16E 5320
Walla Wolla River COLUMBIA RIVER COLUMBIA COLUMBIA RIVER COLUMBIA COL	3 375 hE 1865 10 9 365 5E 6000 10 9 103 5W 6000 10 Summer Lake
D 21D6 Brooks Meadows 2 25 10E 4300 22016 Howard Prair 21D1 Greenpoint Reservoir 28 2N 9E 3400 22016 Hyat Prairie	17 h03 3E 5010 2002 Summer KLM 15 33S 16K 7700 1e 32 38S LE L500 6 Reservoir 15 393 3E h900 Silver Luke
Willow Creek 21D20 Knebal Springs 31 18 11E 3850 22D2 Little Red M 21D8 Philos Point 6 38 9E 5600 21DB Philos Point 6 38 9E 5600 21DB Philos Point 7 AMMILL 1706 1902 Arbuckle Mountain 33 4s 29E 5400 21D9 Still Creek 22D2 Little Red M 22D3 Drag Mountain 21D Philos Point 21D Philos Philos Philos 21D Philos Philos Philos 21D Philos Philos Philos 21D Philos Philos Philos 21D Philos Philos Philos Philos Philos 21D Philos Philos Philos Philos Philos Philos 21D Philos Phil	16 h09 64 h000 21F12 Silver Cruek 25 & 26 293 13E h900 n 8 h13 74 h0h5 20013 *Sycan Flat 25 313 1hE 5500
21D7 Tilly Jane 15 28 9E 6000 22H1 Scragg Rount 21D2 Ulrich Ranch Junction 28 15 11E 3350 2201 Seven Lakes 2	adin (Cal) 9 Ñ/N 104 6200 No. 1 3 Ms 5E 6800 Weiner Laku No. 2 26 333 5E 6200
Upper John Doy River Section Se	witt 17 hos 2E h630 20016 World Found Foundain 13 h0s 2E 6020 2013 401 mmal Emanp (Cal) 31 h0n 16K 7000 1 1 h0s 14 6900 1901 #Mart Mountain 1 36s 25E 6350
N Soniam 228 1902 Arthory Lake 10 /8 3/18 125 21D20 Knebal Springs 31 18 11E 3850 2201 Whaleback 1902 Arthory Lake Mountain 18012 Arthory Lake Mountain Summit 29 35 31E 1310 18012 Arthory Lake 1902 Arthor	3 313 2E 51h0 20010 "Shorman Valley 15 378 71K 6600 Umpqua River Guono Lake
18E16 Hine Mountain Spring 21 15S 35E 5900 18E13 Hine Mountain Summit 6 12S 5908 18E20 21E6 22E6 22E6 22E6 22E6 22EF 6 No. 7 The state of the state	12 238 LE 1500 19H1 Raid Mountain (Nev) 17 15H 21E 6720 29 273 6E 5315 1901 Whart Mountain 1 363 25E 6350 19 268 6E 1215
18E8 Gold Center 21 9S 36E 5340 21E7 19E4 19E4 19E5 19E9 Izee Summit 28 16S 29E 5293	1 278 HE 3800 3 319 28 5140
20E1 Marks Creek 25 12S 19E 4540 20E2 Ochoco Meadows 21 13S 20E 5200 20E2 18E7 Olive Lake 14 9S 33 E 6000 KLAM	SIIVIO RIVOT - SIIVOT Crook ATH WATERSHEDS (101 1887 *Coll Montlows 29 203 338 5340
19F7 Starr Ridge 20 155 31E 5150 21D8 Phlox Point 6 35 9E 5600 2206 Annie Spring 18F9 Troton 34 105 35/E 5100 21D8 Phlox Point 6 35 9E 5600 2206 Annie Spring	Clamath River 1972 Delintment Luke 28 1973 26E 5600 1973 Entgruit Dutte 11 213 27E 5000 1973 Entgruit Dutte 11 213 27E 5000 1973 Ideall Came 33 203 31E 5200
22013 H111c Creak 225 322FI0 2275 22FI0 22FI0 2275 22FI	15'4 22 375 11E 5090 10F1 Rock Spring 73 103 32E 5100 21 275 8E 1760 19F1 Snow Mountain 1 193 26E 6300
WILLAMETTE WATERSHEDS (e) 20012 **Crazyman Flat 2015 North 2015	(Cal) 30 47N 11E 5200 or Summit 34 283 6E 5800
Clackamas River 22FIB 22	1 kos 1he kyoo 1802 Pish Creek k 1338 33E 7900 1s 11 368 10E 6000 1901 Whart Mountain 1 368 25E 6350
Sub-workersned Boundary 21012 Clear Lake 29 ks 9E 3500 22016 Gorbor L 21015 RGU 2265 2265 2265 2265 2265 2265 2265 226	12 393 13E 4850 1601 311vlos 35 328 324E 6500 1601 311vlos 31 3548 6500 160 32 388 4E 4500
COPCD Snew Stotion 2108 Phlox Point 6 38 9E 5600 22015 Lake of the Value of the Valu	rters 8 315 6E 6450 Irout and Whitehorse Creeks
22010 Seven Lakes 1 22011 Seven Lakes 1 22011 Seven Lakes 2 2011 Seven	No. 1 3 348 5E 6800 1840 Dinastor Poak (Nov) 8 17N 34E 6500
2281 Detroit (town) 1 10S 5E 1510 2032 Summor Rin 2164 7 10S 5E 1580 2135 E 1580 21765 2127 Hogg Pass 24 13S 7/2 4/755 2001 Sycan Plat	15 333 16E 7200 22 323 74E 5350 25 315 1/1E 5500
0 EL 22621 2007 22621 2007	10 332 Tro 3103
SISKIYOU Kidindih L N 0 0 0 C Nighti SISKIYOU RICHARD RIVER Bridge 20 105 /E 21/5 R N 1 0 0 C Nighti SISKIYOU RICHARD RIVER BRIDGE 20 105 /E 21/5 MCKenzie River	
	MAP and INDEX to
	OREGON SNOW COURSES



The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and Corps of State Watermasters
Oregon State Highway Engineers
Soil Conservation Districts of Oregon

FEDERAL

Department of Agriculture Cooperative Extension Service Forest Service Soil Conservation Service Department of Commerce

Weather Bureau
Department of the Interior
Bonneville Power Administration
Bureau of Land Management
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service

Department of National Defense Corps of Army Engineers

PUBLIC UTILITIES

California-Pacific Utilities Company Pacific Power and Light Company Portland General Electric Company The California Oregon Power Company

MUNICIPALITIES

City of Baker City of La Grande City of The Dalles City of Walla Walla

IRRIGATION DISTRICTS

Associated Ditch Companies Central Oregon Irrigation District Deschutes County Municipal Improvement District East Fork Irrigation District Grants Pass Irrigation District Jordan Valley Irrigation District Lakeview Water Users, Incorporated Medford Irrigation District North Board of Control - Owyhee Project North Unit Irrigation District Ochoco Irrigation District Rogue River Valley Irrigation District South Board of Control - Owyhee Project Talent Irrigation District Vale-Oregon Irrigation District Warmsprings Irrigation District

PRIVATE ORGANIZATIONS

Amalgamated Sugar Company
The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
ROSS BLDG., 209 S.W. 5TH AVE.
PORTLAND 4. OREGON

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